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A brilliant student and distinguished teacher, Dr. Jha is at present engaged in several research projects. Of progressive and analytical bent of mind, Dr. Jha evinces keen interest in problems of national development. His clarity of vision and insight in to the mechanism of modern economic systems make him a prolific writer and an eloquent orator.

ECONOMICS OF NORTH BIHAR

—A case study

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—A CASE STUDY

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Dedicated

to

the pious memory of

Shree Lalit Narayan Mishra

who

died a martyr's death

for

the development of North Bihar.

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FOREWORD

Bihar is a-stir with the newly created dynamics of economic growth. The movement is in the process of transforming the economy of North Bihar region. Dr. Jha's study "Economics of North Bihar" is a timely and valuable contribution towards the perspective planning of this region. It is a precise and comprehensive account of the under-development, demographic features, agricultural conditions, industrial potentialities, infrastructural facilities and income and employment situation of North Bihar. The chapters on "Agricultural Labour" and "Flood and Drought" in North Bihar are keenly perceptive analysis and the "Perspective Planning for North Bihar" is a dependable pointer to the direction for development.

The pioneering work fills the void in current economic literature of regional studies by offering an exclusive and comparative study of the parameters of North Bihar within the frame work of the national policy of regional planning and balanced economic growth. Written in suggestive and lucid style with up-to-date and authentic data, I sincerely believe, that the treatise would prove to be equally useful for scholars and planners, public men, students and general public interested in the development of North Bihar.

Jagannath Mishra

Chief Minister.
Government of Bihar
Patna
November 7, 1976

ACKNOWLEDGEMENTS

A top ranking national leader, an astute statesman, a fearless freedom fighter, a great intellectual and a dedicated social worker, Late Sri Lalit Narayan Mishra created a climate of national concensus and consciousness for the economic transformation of the most depersesed region of North Bihar. He strove with all the resources of his dynamic personatity to translate his dream for North Bihar into reality. He died a martyr's death for this sacred cause at Samastipur on the very soil of North Bihar. It is his idea which moved me to attempt this study. The book is my humble homage to his pious memory, on the 3rd January 1977, the date of the death anniversary of this Great Son of Mithila.

Dr. Sri Jagannath Mishra, now the Chief Minister of Bihar has constantly acted as my "friend, philosopher and guide' and as supervisor piloted my Ph. D. Thesis. He takes keen interest in my academic pursuits and has been the moving spirit behind this venture. I. therefore, owe to him the deepest gratitude of a personal and abiding nature.

Dr. Madneshwar Mishra, Vice-Chancellor, L. N. Mithila, University, Darbhanga, Dr. H. G, Singh, Member, Bihar Public Service Commission, Patna, Dr. D. Jha, Member, Bihar Planning Board, Patna and Dr. B. Thakur, University Professor of Economics, L. N. Mithila University, Darbhanga, have been powerful forces in the conception and execution of this study.

Prof. S. N. Palit of the University Department of English has been kind enough to go through the manuscript. My wife Mrs. Jyotsna Jha has sustained

my efforts by extending her active co-operation. I have referred in the study to the publications brought out by the Bihar Government, the Bihar Planning Board and the Government of India. M/s. Bharti Pustak Kendra of Tower Chouk, Darbhanga has helped me by agreeing to publish the same. I am thankful to them all and to many more for kind words and encouragement.

P. K. Jha

INTRODUCTION

This is a book, first treatise of its kind, dealing exclusively with the economics of North Bihar. In recent economic thinking much importance is attached to regional planning and regional study. This regional study of North Bihar is designed to serve as a humble guide to all who are interested in the regional planning and balanced economic growth. I have made every possible effort to make this work really precise and useful and of wide interest for all concerned viz. college and the university students, research scholars, Planners, Government officials, Legislators, Parliamentarians and the general public. At present there is mass consciousness and demand for the economic development of North Bihar. The book is presented in this context and it is most politely hoped that this dissertation will act as a modest apparatus of mind to all those who reason, think and propose to do something for this depressed region of North Bihar.

Bihar is one of the poorest States of India. In the interest of balanced economic growth it is imperative that high priority should be given to the economic development of Bihar. North Bihar is the poorest region in the poorest State and hence higher priority should be assigned to the economic development of North Bihar. Even in North Bihar there are depressed areas which deserve foremost priority in the context of economic growth. The arithmetic of macro economics has to be made more powerful by the geometry of regional considerations. Once growth takes a firm hold in one part of the nation, it obviously sets in motion certain forces

that act and react on the remaining parts. Hence regional planning is as important and essential as local and national planning. The local, regional and national levels of planning have, in the majority of the developmental programmes, spatial dimensions, in some cases interlinked while in others, distinct. Therefore, regional planning co-ordinates local planning and is co-ordinated by National Planning. It is regional planning in which attention is focussed on the maximum and most profitable use of idle local resources to maximise the economic growth and welfare of not only the region concerned but of the nation as a whole. From the operational point of view, regional planning involves delimitation of the region, intensive survey of the region and preparation of the general and specific developmental plans. The book "Economics of North Bihar" is designed to serve this purpose.

The analysis has revealed that even in Bihar wide degree of regional disparity exists and North Bihar is lagging behind in every front of economic development. Such a disparity acts as an anathema for economic development and distorts the processes of development of the State. An unbalanced regional development has a number of repercussions on the socio-economic and political life of the people and backwardness and under development in one part act as a serious drag on the economic progress of the developing part. In the interest of the total development of the State it is essential that such imbalances are corrected at the earliest opportunity.

It is not meant here that every part of the State will have "equal" development. By the very nature of

resource endowment and potentialities for development, some area will have higher rate of growth than other areas. What is intended here to be pointed out is that maximum effort need to be made in the relatively less developed areas by providing preferences and incentives and making special allocations so that more economic incentive is generated in these areas and growth catches up. Needless to emphasise that a "Big-push" must be given to the under-developed economy of North Bihar so that not only wide disparity is eliminated but full potentialities are exploited and this region is launched in the self sustaining economic growth which is like an aeroplane taking off the ground. There is a critical ground speed which must be passed before the craft can become airborne.

CHAPTER I

THE UNDERDEVELOPED ECONOMY OF NORTH BIHAR

Bihar is one of the most under-developed States of India. North Bihar is the most under-developed region in the underdeveloped State of Bihar. The North Bihar plain comprises the area between Nepal border in the north and the river Ganga in the south. It has an area of 53.8 thousand sq. kms. It includes the 15 districts of Begusarai, East Champaran, West Champaran, Darbhanga, Gopalganj, Katihar, Madhubani, Muzaffarpur, Purnea, Saharsa, Samastipur, Saran, Sitamarhi and Vaishali. These districts fall under the jurisdiction of Tirhut Division, Darbhanga Division and Koshi Division. North Bihar comprises about 23,000 villages. The area has a large number of holy and historical places, glorious seats of culture and learning and possesses vast potential of human capital. Mithila and Vaishali which are renowned for their glorious past form the main body of North Bihar.

Under-Developed Economy of North Bihar

North Bihar is one of the poorest regions in the country. It is one of the most populous areas in the world. With a population of 25.3 million, this part of the State of Bihar is predominantly rural and agricultural. The proportion of agricultural workers to total workers

is 87.8 percent in respect of North Bihar, 80.2 percent in South Bihar and 74.5 percent in Chhotanagpur. Thus the proportion of agricultural workers to total workers is the highest in North Bihar and even exceeds the State percentage. The net area sown per capita is 0.13 hectares in North Bihar which is lowest in Bihar whereas the percentage of net area sown to total geographical area is 67.0 which is the highest in Bihar. The percentage of gross cropped area to total geographical area is 93.1 in North Bihar which is the highest in Bihar whereas the percentage of area irrigated to net area sown is only 18.3 as against 60.1 percent in South Bihar.

The region of North Bihar has probably the lowest per capita income not only in Bihar and India but in the whole of the world. More than 77 percent of the populace live below the poverty line as against the state average of 74.46 percent i.e., their per capita monthly expenditure is less than Rs. 42/- at 1971-72 prices in terms of the definition given by the Planning Commission. Besides, with significant population of scheduled castes, schedule tribes and backward classes, subsistence cultivation, uneconomic holdings, and backward agriculture, industrial backwardness, low rate of savings and investment, low percapita revenue, maldistribution of income, unemployment and underemployment and poor infrastructural facilities, North Bihar is economically one of the most backward regions in the country and also in the world. In the identification of backward districts by the Planning Commission, several districts of North Bihar were declared backward. Before the Venkatachalam Committee appointed in 1960, the Government of Bihar declared Muzaffarpur, Darbhanga, Saran, Champaran, Purnea and Saharsa

districts of North Bihar as most backward in the State. As if this was not enough, the region of North Bihar has had the misfortune of being plagued by famines and flood. The twin natural calamities of heavy floods and droughts have brought havoc not only to the agricultural development of this region but to the economic progress in general. On the whole, North Bihar is faced with a colossal problem of poverty resulting partly from historical reasons but mainly due to stagnation in the economy, feeble out-lay on development and galloping unemployment and under-employment. Economic base being weak, the economic growth of North Bihar has been extremely sluggish. The people of this region are far behind the national minimum in the provision of basic social consumption.

Need For Developing North Bihar

The arithmetic of macro economic growth is made more powerful by the geometry of balanced regional growth. In this context we must emphasise the urgency of correcting the economic imbalance prevailing in the country. It is indeed in the interest of the nation as a whole that the backward states and backward regions like North Bihar are enabled to attain the average national level of development so that they may not act as a drag on the progress of the State and the country. The expectation of the people having been roused, the removal of regional imbalance can no longer be postponed if we have to ensure evolution of a balanced social order.

The people of North Bihar had suffered poverty, starvation, unemployment and backwardness in stoic silence. But time has changed. Their expectations

have been greatly roused in the context of the avowed national objective of removing poverty and unemployment. The fatalism of the past can no longer keep the people content with their lot. They want urgent provision to be made for more irrigation, seeds and fertilizers. They want the enormous floods and drought, inflicting gigantic loss and causing intolerable sufferings, to be controlled. They want more roads, electrification, health and educational facilities. In short they want the processes of development to be a reality for them and not mere far cry. It may indeed be highly dangerous to let an awakened people continue in a state of utter backwardness and poverty.

The existence of poverty is incompatible with the vision of an advanced, prosperous, democratic, egalitarian and just society implied in the concept of a socialist pattern of development. Hence in any meaningful strategy of development, aiming at democratic socialism and egalitarian order, integrated development of the backward regions like North Bihar will have to be made the king-pin of our development effort. The basic goal of our planning is a rapid increase in the standard of living of the people and, therefore, emphasis should be rightly placed on the betterment of the lot of millions of poor in North Bihar. If 'Garibi Hatao' as a creed is to make its entry into the set of socio-economic-political objectives, the backward regions like North Bihar should be adequately developed as they are the main abode of the rural poor. The National Programme for Minimum Needs must begin from such backward areas.

North Bihar has the glory of being the granary of

India. It has most fertile tracts in the Indo-Gangetic plains and fabulous man power with no equal in India. Here there is immense potentialities for the development of different types of industries particularly small scale and cottage industries. Given necessary wherewithal and protected from floods and droughts, North Bihar has the capacity to march much faster on the roads to economic development and once its potential is fully exploited, we hope it to be in course of time one of the affluent regions of the country. The doctrine of balanced regional growth suggests that if the nation aspires to attain maturity in economic growth, it must give a 'big-push' to the economically backward regions like North Bihar. The backward District Development Programme, the Backward Regions Development Programme, the Integrated Rural Development Programme and the National Programme for Minimum Needs must begin from North Bihar.

CHAPTER II.

Population Problem of North Bihar

North Bihar is one of the most populous regions in the world. The heavy and increasing magnitude of population is the most fundamental obstacle to the economic development of North Bihar. The economic, social and political consequences of a population as large as 26 million can very well be imagined. The population explosion in North Bihar poses a serious threat to development efforts of this less developed region. The task of providing food, schools, employment, health facilities, housing etc. for the increasing number is staggering. A large percentage of the dependent population tends to reduce savings and investment and inhibits the rates of economic and social advancement as a large proportion of the scarce resources are diverted towards consumption. Also increasingly large number of persons continue to enter the working ages swelling the ranks of the unemployed. Different factors which influence the growth of population such as age at marriage, widowhood, widow marriage, duration of fertile union, migration, urbanisation, fertility, sterility, mortality etc. are adverse to North Bihar. Universality of marriage, lower age at marriage, limited use of contraceptives, low level of literacy, poor level of living of the masses and the traditional way of life accounts for the high growth rate of population. On the other hand, control of epidemic and endemic diseases like Malaria, improvement in drinking water facilities,

improved drainage, increase in medical and health facilities, use of anti-biotics and introduction of new drugs, development of more effective food distribution system and avoidance of famine catastrophes of the past have led to the decline in mortality rate.

Magnitude Of Population

North Bihar plain with an area of 53.8 thousand sq. Kms. has a population of 26.3 million, the South Bihar plain with an area of 40.3 thousand sq. Kms. has a population of 15.8 million and the Chhotanagpur Plateau region covering 79.6 thousand sq. Kms. has a population of 14.2 million. The population is the densest in the North Bihar Plain, where the average density is 489 person per sq. Km. and in the western part of North Bihar Plain, corresponding to the administrative juris diction of Darbhanga and Tirhut Commissioners, which has an area slightly smaller than that of Kerala, the average density per sq. Km. is the same as that of Kerala, (549). In the South Bihar Plain the average density is 392 persons per sq. Km. which is again more than double the all India average. In the Chhotanagpur plateau, the average density of population is 178 persons per sq. Km. which only slightly exceeds the All India average. The table no.—1 explains the population data of Bihar by natural division.

An analysis of the district-wise growth of population for the decade 1961-71 will show that the populous districts of Muzaffarpur (17.54 percent) and Darbhanga (18.60 percent) have registered a low rate of growth. While the districts of Purnea and Saharsa, have recorded growth rates higher than that of Bihar (21.33). Purnea has also recorded growth rates higher than that of India as a whole (24.80 percent),

TABLE : 1

POPULATION DATA, BIHAR BY NATURAL DIVISION, 1971.

Natural Division	Area ('000) Sq. Km.	% of State Total	No. of occupied residential housed ('000)	% of State Total	No. of House holds ('000)	% of State Total	Total Population (Lakhs)	% of State Total	Density per Sq. Km.
1	2	3	4	5	6	7	8	9	10
North Bihar Plain	53.8	30.9	37,51.6	44.8	46,09.9	46,9	263.1	46.7	489
South Bihar Plain	40.4	23.3	21,58.3	25.8	25,31.9	25.7	158.2	28.1	392
Chhotanagpur Plateau	79.7	45.8	24,66.7	29.4	26,96.1	27.4	142.2	25.2	178
All Bihar	173.9	100.0	83,76.6	100.0	98,37.9	100.0	563.5	100.0	324

Source : Census of India, 1971.

Rural Urban Population

The regional variations in the proportion of urban to total population in the State is 5.2% in North Bihar, 16.0 percent in Chhotanagpur and 10 percent for Bihar as a whole. While the northern plain is by far the least urbanised, the relative higher degree of urbanisation in the Chhotanagpur area is also somewhat deceptive, in as much as it is on account of a few heavy and mineral based industrial complex forming islands in a vast rural landscape. The percentage distribution of rural and urban population by natural divisions is indicated in table no.–2.

Composition of Population

Hindus are by far the largest religious community in Bihar accounting for 83.5 percent of the population of the State. Muslim comes next in numerical strength comprising 13.5 percent. Besides, there are Sikhs and Christians. Bihar has a large population of scheduled castes and scheduled tribes. In 1971, the total population of scheduled castes in the State was 7.9 million and that of scheduled tribes 4.9 million. The two together constitute 22.9 percent of the total population of the State against 21.5 percent for all India. The regional variations in the population of scheduled castes/ scheduled tribes are indicated in table no.–3.

Occupational Pattern of Population

The proportion of workers to total population in the State for the three regions of North Bihar, South Bihar and Chhotanagpur was 30.9,30.4,32.4 respectively.

TABLE : 3
SCHEDULED CASTES / SCHEDULED TRIBES POPULATION

Natural Division	Sch. caste population ('000)	% of Sch. caste to total population	Distribution of Sch. castes population ('000)	Sch. tribes population ('000)	% of Sch. tribes to total population.	% of distribution of Sch. tribes population.
1	2	3	4	5	6	7
North Bihar Plains	47,10	17.9	59.2	2,12	0.8	4.3
South Bihar Plains	18,27	11.5	23.0	1,51	0.9	3.1
Chhotanagpur Plateau	14,13	9.9	17.8	45,70	32.1	92.6
All Bihar	79,50	14.1	100.0	49,33	8.8	100.0

Source : Census of India, 1971.

TABLE 2
RURAL-URBAN POPULATION

Natural Division	% Distribution of urban population by natural Divisions	Urban area (Sq. Km.)	Urban density (per Sq. Km.)	Rural population (Lakhs)	% of Rural population to Total	% of distribution of rural population	Rural area (Sq. Km.)	Rural density (per Sq.Km.)
1	2	3	4	5	6	7	8	9
North Bihar Plains	24.2	573	2,373	2,49.5	94.8	49.2	53,249	469
South Bihar Plains	35.3	694	2,867	1,38.3	87.4	27.3	39,722	348
Chhotanagpur Plateau	40.5	1,507	1,513	1,19.4	84.0	23.5	78,131	153
All Bihar	1,00.0	2,774	2,030	5,07.2	90.0	100.0	1,71,102	297

Source : Census of India, 1971.

The proportion of agricultural to total workers is 87.8 percent in respect of North Bihar, 80.2 percent in South Bihar and 74.5 percent in Chhotanagpur. The proportion of agricultural workers to total workers is thus highest in North Bihar and even excceeds the State percentage. In Saharsa district the percentage of total workers dependent upon agriculture is as high as 90.5 percent followed by Champaran (89.9 percent) and Palamu (88.7 percent). In fact, in no other district in the country is the percentage of total workers dependent upon agriculture as high as in Saharsa district. Dhanbad has the lowest percentage (35.1 percent) of the working population engaged in agriculture because of industrialisation and urbanisation.

The proportion of agricultural labourers to total workers in the three regions of North, South and Chhotanagpur is 46.4,40.3 and 21.1 percent respectively. The proportion of agricultural labourers to total workers is the highest in Champaran district (54.3 percent) followed by Darbhanga district (49.5 percent) and Saharsa district (48.3 percent). The district where the proportion of agricultural labourers to total workers is least is Dhanbad (11.9 percent). The engagements in other trade and occupations is nominal in North Bihar. The occupational pattern of the different regions is indicated in table no.-4.

From the table it is clear that dependence is very heavy in agriculture and employments in other trade and occupations are nominal. This suggests that for the economic development of NorthBihar it is necessary to transfer labour force from agriculture to other occupations and trade by developing them.

TABLE 4.

OCCUPATIONAL PATTERN OF POPULATION BY NATURAL DIVISIONS.

Natural Division	Total workers ('000)	%of workers to total population	Cultivators ('000)	%of cultivators to total workers.	Agr. Labourers ('000)	% of agr. labourers to total workers	Agricultural workers ('000)	% of Agricultural workers to total workers
1	2	3	4	5	6	7	8	9
North Bihar Plains	81,22.6	30.9	33,62.2	41.4	37,69.2	46.4	71,31.4	87.8
South Bihar Plain	48,07.7	30.4	19,19.8	39.9	19,36.0	40.3	38,55.8	80.2
Chhotanagpur Plateau	45,58.6	32.4	22,97.7	50.4	11,00.9	24.1	33,98.6	74.5
All Bihar.	1,74,88.9	31.0	75,79.7	43.3	68,06.1	38.9	1,43,85.8	82.2

Source : Census of India 1971.

TABLE CONTIUkD

Natural Division	Workers in manufacturing and processing industries ('000)	% of workers in manufacturing & processing industrles to total workers.	Workers in construction. ('000)	% of workers in constuction of total workers.	Workers in trade & commerce etc. (000)	% of workers in trade and commerce to total workers.	Workers in other services. ('000)
	18	19	20	21	22	23	24
North Bihar Plains	1,17.8	1.5	27.4	0.3	2,18.3	2.7	3,11.9
Shouth Bihar Plains	1,23.0	2.6	28.5	0.6	2,06.8	4.3	2,98.7
Chhatanagpur Plateau	2,13.8	4.7	42.2	0.9	1,45.1	3.2	2,45.1
All Bihar	4,54.6	2.6	98.1	0.6	5,70,2	3.2	8,55.7

Source : Census of India 1971

TABLE CONTINUED

Natural Division	Non-agri-culltural work rs ('000)	% of non-agricultural workers to total workers.	workers in live-stock forestry etc. ('000)	% of workers in live-stock forestry fo total workers.	workers in mining ('000)	% of wor-kers in mining quarrying to total workess.	Workers in house hold in-dustries ('000)	% of workers in household indutries to total workers.
	10	11	12	13	14	15	16	17
North Bihar Plain	9,91.4	12.2	83.4	1.0	1.3		1,53.4	1.9
South Bihar Plain	9,51.7	19.8	36.4	0.7	7.1	0.1	1,66-9	3.5
Chhotanagur Plateau	11,60.0	25.5	48.8	1.1	2,50.1	5.5	1,12.3	2.5
All Bihar.	31,03.1	17.8	168.6	0.9	2,58.5	1.5	4,32.6	2.5

Source : Census of India 1971.

TABLE CONTINUED

Natural Division	% of workers in other services to total workers.	Workers in Transport and storage ('000)	% of workers in transport & storage to total workers.	Non-workers ('000)	Percentage of non-workers to total workers.
	25	26	27	28	29
North Bihar Plains	3.8	77.9	1.0	181,81.5	69.1
South Bihar Plains	6.2	84.3	1.8	110,14.4	69.6
Chhotanagpur Plateau	5.4	1,02.6	2.2	96,68.6	68.8
All Bihar	4.9	2,64.8	1.5	388,64.5	69.0

Source : Census of India 1971.

Population Policy for North Bihar

It is not easy to comprehend what North Bihar will have to face when it will be required to feed, clothe, educate and find employment for the ever growing population. It is a recongnized fact that rapid rates of population growth influence every sector of economic and social development. Population policy is rapidly becoming an accepted part of the development programmes. The world opinion on the subject of family planning has been mobilised appreciably. Thus in such countries as the Republic of China, Hongkong, Singapur, Mauritius, Trinad and Tobago and Albania large reduction in birth rate has been observed while less marked but substantial reduction has occurred in Sri Lanka, Jamaica, Puertorico and Cossarica. West Malayasia and Chile have also seen a considerable reduction in birth rates and several countries such as Mexico, Venezuella and Panama seem to have begun fertility decline. In a few developed countries there is concern for average population growth e. g. in the United States, Britain and Netherlands. There are certain countries that want to increase fertility than to limit it e. g. Japan, Argentina. France, Spain, Israel, Greece and Romania. But even in these countries large percentage of married couple aged between 20 and 45 practice birth control through condom and contraceptives. The percentage of such couple is 80 in Germany, France and U. S. A.. India, Indonesia, Iran and Malayasia have a strong population policy.

Unrestricted population growth in North Bihar tends to impose a strong constraint on the standard of living, happiness and even survival of mankind through

the spiralling consumption of fixed quantity of resources. The rapid population growth is a multiple of problems associated with man-land ratio, employment, education, health services, transportation, migration, housing, industrialisation, agricultural productivity, and above all that of increasing percapita income.

Therefore, there should be a positive and strong population policy for North Bihar. The family planning programe has so far not penetrated in the rural areas. There is the need to arouse mass consciousness in the rural areas for family planning. In every Panchayat a family planning clinic should be attached to facilitate birth control. Family Planning is a gigantic operation which requires the co-operation of medical doctors, social workrs, demographers, economists, social scientists and administrators.

CHAPTER III

AGRICULTURE IN NORTH BIHAR

North Bihar is known as the granary of India. Agriculture is the backbone of the economy of North Bihar. About 90 percent of the population depends upon agriculture. The income. per capita income, standard of living, saving, consumption, investment, trade and commerce, employment and economic prosperity of North Bihar depends upon agriculture. If agriculture fails in North Bihar, this would entail the collapse of entire economic activities. But the agriculture in North Bihar is backwardly underdeveloped and the least mechanised. It is operated through primitive tools and implements and vulnerable to frequent flood and drought. The backwardness of agriculture is the root cause of pathetic poverty and other economic ills of North Bihar. Therefore, any plan for the development of North Bihar must begin and end with the agricultural developmet.

Soils in North Bihar

The nature of the soil has important co-relation with agricultural productivity. North Bihar has most fertile tracts in the Indo-Gangetic plains. The soils in Bihar may be classified broadly into 23 groups based on common characteristics. Of these 23 groups, seven are located in North Bihar, six in the alluvial plains of South Bihar and ten in the Chhotanagpur Plateau. In North Bihar we find Sub-Himalayan Hill and Forest Soils,

Recent Alluvium Terai Soils, Recent Alluvium Non-Calcareous, Non-saline Soils, Young Alluvium Non-calcareous, Young Alluvium Calcareous, Saline Alkali Soils and Recent Alluvium Calcareous Soils,

Rainfaill in North Bihar

The State of Bihar lies between latitudes 21°58′ and 27°31′ N. and longitude 93°20′ and 58°32′ E.Like India, the economic prosperity of North Bihar depends upon Monsoon, The agriculture in North Bihar is a gambling with Monsoon. In the absence of assured irrigation, agriculture in a major portion of Bihar is heavily dependent upon rainfall, Excessive rainfall brings floods while partial or complete failure of Monsoon, its untimely advent,uneven distribution etc. cause droughts. Major protions of the districts of North Bihar have the annual rainfall between 1016.0 m. m. and 1270.0 m. m. The following table gives an idea of the annual rainfall in North Bihar :

TABLE 5

RAINFALL BY DISTRICT (IN MILLIMETRES).

	District	Annual rainfalls.
1.	Saran	11,21.2
2.	Champaran	13,91.5
3.	Muzaffarpur	11,83.7
4.	Darbhanga	12,19.7
5.	Saharsa	13,79.4
6.	Purnea	15,95.3
7.	Bihar	12,71.9

Source : Directorate of Statistics and Evaluation, Bihar.

Irrigation in North Bihar

Extension of irrigation facilities is the basic requirement for any plan of agricultural development in North Bihar. The principal sources of irrigation in North Bihar are government canals, private canals, tanks, tube-wells, wells and other sources-like pynes and ahars etc. The irrigation facility is very meagre for North Bihar. The percentage of net area irrigated to net area sown is 18.3 percent in North Bihar Plains,60.1 percent in South Bihar Plains and 7.9 percent in Chhotanagpur Plateau and 28.3 percent for all Bihar. The table no–6 explains the irrigation facilities in Bihar by natural division :

The extension of minor irrigation facilities on universal scale can alone control the fluctuating fortune of North Bihar and can bring economic prosperity to this area.

Live-Stock in North Bihar

The live-stock is an important infrastructural facility in North Bihar and determines the nature and magnitude of agricultural development in various ways. We are quantitatively very rich in live-stock but qualitatively very poor in comparison to other parts of India and the world. Improvement in the quality of live-stock and elimination of deteriorated number is necessary to boost up the prosperity of the farmers. So far as the distribution of the species of live-stock in B.har is concerned, the North Bihar districts have greater density of cattle than the South Bihar Plains. The North Bihar Plains with 42 percent of Bihar's cattle and 42 percent of Bihar's buffaloes has a cattle

TABLE 6

AREA IRRIGATED BY SOURCES-BIHAR BY NATURAL DIVISION, 1972-73.

Natural Division	Area irrigated ('000 acres) by							
	Canals		Tanks		Tube-wells		Wells.	
	Net	Gross	Net	Gross	Net	Gross	Net	Gross.
1	2	3	4	5	6	7	8	9
North Bihar Plains	5,68	7,58	51	57	5,11	6,47	1,97	2,08
South Bihar Plains	16,56	19,09	1,31	1,38	6,81	9,29	1,59	2,12
Chhotanagpur Plateau	53	55	92	1,00	22	24	93	1,01
All Bihar	22,77	27,22	2,74	2,95	12,14	16,00	4,49	5,21

Source : Directorate of Statistics and Evaluation, Bihar.

TABLE CONTINUED

Natural Division	Area irrigated ('000 acres) by--			
	other sources.		Total	
	Net	Gross	Net	Gross
	10	11	12	13
North Bihar Plains	1,48	1,76	14,75	18,46
South Bihar Plains	10,81	11,31	37,08	43,19
Chhotanagpur Plateau	1,85	1,97	4,45	4,77
All Bihar	14,14	15,04	56,28	66,42

Source : Directorate of Statistics and Evaluation, Bihar.

TABLE CONCLUDED.

Natural Division	Percentage of net area irrigated to gross area irrigated.	Percentage to net area irrigated to net area sown.	Percentage of gross area irrigated to net area sown.	Percentage of gross area irrigated to gross area sown.
	14	15	16	17
North Bihar Plains	79.9	18.3	22.9	16.6
South Bihar Plains	85.9	60.1	70.0	51.0
Chhotanagur Plateau	93.3	7.9	8.4	7.9
All Bihar.	84.7	28.3	33.4	25.9

Source : Directorate of Statistics and Evaluation, Bihar.

density of 330 per sq.mile and a buffalo density 76 per sq.mile. The South Bihar Plains with 24 percent of State's cattle and 30 percent of buffalo has a cattle density of 245 and density of buffalo 70 per sq.mile. The Chhotanagpur Plateau with 34 percent of the States cattle and 28 percent of the State buffalo has a cattle density of 177 per sq.mile and a buffalo density 33 per sq.mile. Saharsa and Purnea district of North Bihar has the highest density of cattle. The district-wise combined number of cattle, buffaloes, sheep, goats, horses and ponies, mules, donkeys, camels and poultry in North Bihar is presented in the following table no.—7

TABLE 7

LIVESTOCK AND POUTRY-NORTH BIHAR BY DISTRICT-1972

District	Total Live-stock and poultry.
Champaran	3,53,134
Muzaffarpur	2,17,843
Darbhanga	3,03,316
Saharsa	1,82,365
Purnea	18,36,002
All Bihar	1,25,60,071

Source : Live-stock Census 1972.

Forest in North Bihar

The forest regions in Bihar are confined almost wholly to the Plateau region with small pockets in Rohtas, West and East Champaran and Santhal Parganas district. The forests in Bihar are broadly of two types—(i) Tropical Moist Deciduous, covering the Plateau region and the Sub-mountaneous Vegetation in

North Bihar; and (ii) Tropical Dry Deciduous found over the remaining portion of the State, mainly the central part of the gangetic plain. In North Bihar particularly grove and orchards occur in fair abundance consisting largely of deciduous trees but with quite a few ever green species while isolated tree growth is not uncommon. In the South Bihar Plains, however, the frequency of groves decreases and isolated trees are more common. Sebai grass is the most important grass of the region, while certain species of palm trees are conspicuous features of the landscape. Large areas of Bihar particularly in the northern fringe of the plateau have been denuded of vegetation by shifting cultivation and by reckless felling of trees for fuel. The table no.–8 pictures the area of forest by natural division.

Forest has an important bearing upon the economic life and according to the experts at least 33 percent of the total area must have forest. But in North Bihar Plains, we have virtually no forest. This is a serious draw-back in our economic life and any,sound development policy for North Bihar must aim at aforestation.

Land Utilisation Pattern In North Bihar

In North Bihar the percentage of gross cropped area to total geographical area is 93.1 in North Bihar which is the highest in Bihar. In 1971 the net area cultivated per capita in the State was only 0.36 acres which with further growth of population fell to 0.34 acres in 1974 and will fall to 0.31 acre at the end of thc Fifth plan. In the North Bihar plain the net area cultivated per capita is only 0.81 acre currently which will decline to 0.35 acres by the end of the Fifth plan. The intensity

TABLE 8.

FORESTS-BIHAR BY NATURAL DIVISION 1971-72

Natural Division	Geographical Area (sq. km.)	Forest Area (sq. km.)	Forest as percentage of total area	Per capita forest area (Hectares)	Live stock (lakh)	Forest area per head of livestock (Hectares)
1	2	3	4	5	6	7
North Bihar Plains	49,047	931	1.90	0.004	97.58	0.001
South Bihar Plains	45,315	5,219	11.52	0.029	73.15	0.071
Chhotanagpur Plateau	79,674	23,129	29.03	0.162	108.73	0.212
All Bihar.	1,74,036	29,279	.16.83	0.052	279.46	1.105

Source : Department of Forests, Bihar, 1971-72.

of cultivation in the State, i.e., the ratio of gross to net area sown works out to 1.39 only as against the all India average of 1.18. The figures for North Bihar, South Bihar and Chhotanagpur are 1.37,1.38 and 1.2 respectively. It is interesting to note that the multiple cropped area was higher in North Bihar districts than in South Bihar districts. 37.17 percent of the net sown area in North Bihar was multiple cropped.

90 percent of total cropped area of the state of Bihar is utilised for the production of food crops and the remaining 10 percent is devoted to non-food crops against 74 percent and 26 percent respectively for the country as a whole. Rice, Maize, Raji, wheat, Barley, Gram, Khesari, Mosoor, are the principal food crops in North Bihar and Mustard, Linseed, Sesanum, Jute, Cotton, Sugar-cane, Chillies, Potato, Tobacco are the principal non-food grains in North Bihar.

The table no.—9 explains the land use pattern in North Bihar.

In North Bihar the per capita geographical area, the net area cultivated and the net area sown is also very poor. The table no.—10 illustrates the land worker ratio, Bihar by natural division.

Similarly, the table no.—11 highligts the position of small and marginal farmers.

The analysis of land use pattern suggests that the pressure of population on land is very high and therefore, for the sound economic development of North Bihar, it is necessary that a substantial proportion of

TABLE 9

LAND USE, BIHAR BY NATURAL DIVISION, 1970-71.

Area ('000 acres)

Natural Division	Geographical Area.	% to total area	Forest	% to total area	Barren unculturable land.	% of total area	Land put to non-agricultural Uses
	1	2	3	4	5	6	7
North Bihar Plains	1,31,94	30.8	2,23	1.7	5,10	3.8	16,26
South Bihar Plains	99,35	23.2	12,61	12.7	6,12	6.1	9,79
Chhotanagpur Plateau	1,96,94	46.9	5,53	29.2	14,98	7.6	12,14
All Bihar	4,28,23	100.00	72,37	16.9	2,620	6.1	38,19

Source : Directorate of Statistics and Evaluation, Bihar, Patna.

TABLE CONTINUED.

Natural Division	% to total area	Culturable Waste land	% to total area	Misc. and groves.	% to total area	Permanent grazing land.	Percentage to total area
	8	9	10	11	12	13	14
North Bihar Plains	12.3	1,28	1.0	2,94	2.2	63	0.5
South Bihar Plains	9.9	1,37	1.4	43	0.4	49	0.5
Chhotanagpur Plateau	6.1	10,01	5.0	1,48	0.8	3,32	1.7
All Bihar	8.9	12,66	3.0	4,85	1.1	4,44	1.0

Source : Directorate of Statistics and Evaluation, Bihar, Patna.

TABLE CONCLUDED.

Natural Division	Current fallows	% to total area	Other fallow lands.	% to total area	Net area sown	% to total area	Are sown more than once.	% to total area.
	15	16	17	18	19	20	21	22
North Bihar Plains	10,82	8.2	3,16	2.4	89,52	67.9	33,32	25.2
South Bihar Plains	6,88	6.9	1,87	1.9	59,79	60.2	23,26	23.4
Chhotanagur Plateau	21,21	10.8	16,67	8.5	59,60	30.3	6,96	3.5
All Bihar.	38,91	9.1	21,70	5.1	2,08,91	48.8	63,54	14.8

Source : Directorate of Statistics and Evaluation, Bihar-Patna.

TABLE CONTINUED

Natural Division	Total cropped area.	Percentage to total area	Percentage of grass to net area sown.
	23	24	25
North Bihar Plains	1,22,84	93.1	137.2
South Bihar Plains	83,05	83.6	138.9
Chhotanagpur Plateau	66,56	33.8	111.7
All Bihar	2,72,45	63.6	130.4

Source : Directorate of Statistics and Evaluation, Bihar.

TABLE 10

LAND WORKER RATIO, BIHAR BY NATURAL DIVISION, 1971.

Natural Division	Population ('000)	Cultivators ('000)	Agricultural Labourers ('000)	Agricultural workers. ('000)	Geographical area percapita (acres)
1	2	3	4	5	6
North Bihar Plains	24,189	3,362.2	3,709.2	7,131.4	0.50
South Bihar Plains	17,937	1,919.8	1,936.0	3,855.8	0.63
Chhotanagpur Plateau	14,227	2,297.7	1,100.9	3,398.6	1.38
All Bihar	56,353	7,579.0	6,806.1	14,385.8	0.76

Source : (i) Census of India 1971.
(ii) Directorate of Statistics and Evaluation, Bihar.

TABLE CONTINUED

Natural Division	Net cultivated area per capita (acres)	Gross cultivated area per capita (acres)	Net area sown per cultivator (acres)	Net area sown per agricultural labour (acres)	Net area sown per agricultural worker (acres)
	7	8	9	10	11
North Bihar Plains	0.34	0.46	2.7	4.2	1.3
South Bihar Plains	0.38	0.53	3.1	3.2	1.6
Chhotanagpur Plateau	0.42	0.44	2.6	1.8	1.8
All Bihar	0.37	0.48	2.8	3.3	1.5

Source : (i) Census of India 1971.
(ii) Directorate of Statistices and Evaluation, Bihar.

TABLE 11

SMALL AND MARGINAL FARMERS, 1970-71.

Natural Division	Number of marginal farmers (000)	% to total holdings.	No. of small farmers holdings (000)	Percentage to total holdings.
North Bihar	25,27.4	70.4	479.7	13.4
South Bihar	13,75.1	61.0	367.1	16.3
Chhotanagpur	8,78.5	50.6	277.8	16.0
All Bihar	47,81.0	63.1	1124.6	14.8

Source : Agricultural Census of Bihar, 1970-71.

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population should be transferred from agriculture to other industries, trade and occupations. The second finding is that agriculture is least commercialised in North Bihar and therefore, there should be shift in cultivation from food crops to non-food crops. Thirdly, most of the land in North Bihar is used for cultivation which suggests a withdrawal of land from cultivation for aforestation and other purposes.

Agricultural Policy For North Bihar

In view of the above analysis of the backward agriculture of North Bihar, we suggest certain policy for agrarian reforms. First, there should be quick implementation of land ceiling laws including consolidation of holdings and steps should be taken for land reclamation, land developments etc. Secondly, the methods and implements of agriculture should be modernised and there should be use of improved seeds and fertilisers to boost up agricultural production. Thirdly, extension of irrigation facilities on a wide scale and protection from floods is of primary improtance for the agricultural development in particular and economic development in general. Fourthly, there should be qualitative improvement in live-stock and sick live-stock should be eliminated. Fifthly, steps should be taken for aforestation Sixthly, in order to minimse excessive perssure on land, there should be transfer of population from agriculture to subsidiary industries, trade and occupations. Lastly, agriculture should be commercialised by shifting a portion of cultivation from food crops to commercial crops.

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CHAPTER IV.

Agricultural Labourers in North Bihar

The protection to labour is inherent in our basic principle of democratic socialism. Fichte, the great social thinker enunciated "the rights to be protected by the States are the right to live and the right to work". The Indian National Congress in its resolution adopted in 1931 also promised to the workers the end of exploitation, living wages, healthy condition, limited hours and protection from economic consequences of old age, sickness and un-employment. Mahatma Gandhi also declared "I shall work for an India in which the poorest shall feel that it is their country". Pt. Jawahar Lal Nehru announced" the service of India means the service of the millions who suffer. It means the ending of poverty and ignorance and disease and inequality of opportunity. The ambition of the greatest man of our generation has been to wipe every tear from every eye". In the Preamble of the Constitution, it was proclaimed "to secure to all its citizens justice, social, economic and political". The fundamental rights lays down in Art. 23 (1) that "traffic in human beings and beggar and other similar forms of forced labour are prohibited" The Directive Principles of the State Policy direct the State for securing adequate means of livelihood for all its citizens, right to work, human conditions of work and living wages etc. If 'Garibi Hatao' as a creed is to make its entry into the set of socio-economic objectives of the Government, emphasis must be directed for the betterment of the lot of agricultural labourers who

really symbolise the rural poor. North Bihar has an overwhelming population of agricultural labourers which calls for an immediate attention of the Government and a more progressive welfare policy for them.

Number of Agricultural Labourers in North Bihar

In Bihar according to 1971 Census, the number of agricultural labourers is 68,06,103 out of which 50,08,881 are males and 17,97,222 are females. The proportion of agricultural labourers to total workers in the three regions of North, South Bihar and Chhotanagpur is 45.4,40.2 and 21.1 percent respectively. The proportion of agricultural labourers to total workers is the highest in Champaran district (54.3 percent) followed by Darbhanga district (49.5 parcent) and Saharsa district (48.3 percent). The district where the proportion of agricultural labourers to total workers is least is Dhanbad (11.9 percent). The details of the agricultural labourers in North Bihar is given in the following table :

TABLE 12

Number of agricultural labourers in North Bihar.

(In '000).

District	Agricultural labourers
Saran	1,72
Siwan	2,08
East Champara'n	3,42
West Champaran	3,10
Muzaffarpur	2,69
Vaishali	1,31
Sitamarhi	2,64

Darbhanga	2,16
Samastipur	2,55
Madhubani	2,98
Begusarai	1,70
Saharsa	4,01
Purnea	5,72
North Bihar	3,769.2
South Bihar	1,936.0
Chhotanagpur	1,100.9
All Bihar	6,806.1

Source : Census of India 1971.

Economic Condition of Agricultural Labourers

The economic condition of agricultural labour is far from satisfactory in North Bihar and most of them live below the poverty line. Though the economic condition of agricultural labour has been revealed by the findings of two labour Commissions of India, the data are available for India and Bihar only. No separate assessment has been made for North Bihar. However, from the Statistics of Bihar, we can have an estimation of the economic conditions of agricultural labourers in North Bihar.

The average daily wages of man in the agricultural operations in Bihar worked out at 20.2 annas and of women at 17.6 annas. Although the average annual income of an agricultural labourer's family in Bihar in 1950-51 was found to be Rs. 534/-, the average annual consumption expentiture of the family was estimated at Rs. 574/- that is 7.5 percent in excess of income. The poverty of the agricultural labour was borne out by the

fact that as much as 90 percent of their total expenditure was on food alone. The agricultural labourers could spend only Rs. 20/- per year on clothings for all the 4.5 members of the family. The percentage of agricultural labour households with land was 64.11 in 1950-51 which declined to 61.22 in 1956-57. The percentage of agricultural labour without land was 35.89 in 1950-51 which increased to 38.78 in 1956-57. The percentage of casual labour declined from 99.0 in 1950-51 to 58.48 in 1956-57. The percentage of attached labour increased from 1.0 in 1950-51 to 41.52 in 1956-57. Employment for wages increased from 198 days in 1950-51 to 218days in 1950-51.Self employment reduced from 82 days in 1950-51 to 28 days in 1956-57. The total family income of agricultural labour declined from Rs. 535 in 1950-51 to Rs. 420/- per annum in 1956-57. The per capita income in Bihar declined from Rs. 118.9 in 1950-51 to Rs. 88.3 in 1956-57 per annum. The average annual per capita expenditure of agricultural labourers increased from Rs. 575 in 1950-51 to Rs. 617 in 1956-57. The percentage of indebted household increased from 41.9 in 1950-51 to 68.5 in 1956-57. Average debt per indebted household in Bihar increased from Rs. 95/- in 1950-51 to Rs. 142 in 1956-57. Dr. C. P. Shastri Agricultural Economist, Bihar Government, estimated in 1963-64 that in North Bihar daily wages paid to agricultural labourers varied from Rs.1.25 for ploughing to Rs. 3 for harvesting and generally females got lower wages. In North Bihar the cash wages are Rs. 30 to 40 per month. Only 3.3 percent of total employment in South Bihar and less than 1.00 percent in North Bihar and Chhotanagpur was unemployed due to sickness. Casual labour accounts for 81.82 percent of total utilised labour in North Bihar, 57.03 percent in South Bihar and 52.73 percent in Chhotanagpur.

Government Measures

Over the decades of Planning, the profile of agricultural worker has considerably changed. He has been involved in political process of the election. His children are being benefited from the compulsory primary education. He is now aspirants for and responsive to opportunities for change and development. The government measures to ameliorate the lot of agricultural Labourers include legislative action, investment activities, land settllement schemes etc. The minimum wages act was passedby the Central Government in1948 and accordingly wages are fixed districtwise in North Bihar as well.

20 Point Programme and Agricultural Labour

Mrs. Gandhi's 20—Point programme has kindled the light of new hope in the millions of hopeless hearts of the agricultural labours. The agricultural labourers are benefited by the 20 Point programme which initiated concerted actions for the reduction of prices, implementation of land ceilings, provision of house sites for landless, end of bonded labour, liquidation of rural indebtedness, implementation of minimum agricultural wages, development of handloom sector, improvement of quality and supply of peoples cloth, new apprenticeship schemes to enlarge employment, and training of weaker section etc. Remarkable progress is taking place in this direction throughout India.

Agricultural Labour And 20-Point Programme In Bihar

In Bihar alone during the operation of the 20-Point programme, the prices of essential commodities fell ranging between 34 percent to 41 percent after 1975. About 3 lakh acres of land are being acquired under the Land Ceiling Act. About one lakh acres of surplus land and 6800 acres of Government land has so far been distributed among the landless. 54212 plot of homestead land are being allotted to the Harijans and adivasis and 2500 houses have been constructed for the Harijans. About 8 lakh persons have been given restoration of their rights on land. 581 bonded labours are being released from the clutches of their masters in Patna district and they are rehabilitated on 17.65 acres of land. These bonded labours are freed from a debt of Rs. 36,115. The Government of Bihar has promulgated Ordinance for debt redemption. The recent Rickshaw ordinance giving rickshaw to the pullers is also to benefit those agricultural labours who are part time rickshaw pullers.

The Government of Bihar isbringing about 513 lakh hectares of land under irrigation. With an outlay of Rs. 7.66 crores 2.5 lakh hadlooms are being modernised.

The minimum wages for agrlcultural labourers have beed revised, notified and published in each area by the end of July 1975. In order to impart bargaining power, 40 Trade Unions are also registered. The minimum wages are being vigorously enforced. Between July 1975 to January 1976, 10,600 cases were heard which resulted into wage payment of Rs. 64,900 in cash, 6200 quintals in kind and 150 bighas of land to

the agricultural labourers. The process of this development is going on in full swing and North Bihar is also being benefited by these programmes.

Difficulties In Implementation

In the implementation of the agricultural labour laws and programmes there are several difficulties. These were aptly summarised by the Nationl Commission on Labour as inadequate enforcement machinery, poverty and illiteracy of agricultural labour and structural constraints such as the scattered nature of agricultural farms, casual nature of employment, the unorganised character of agricultural labour. Studies conducted by the N. C. L. reveal that the awareness of the existence of the legislation and the protection it can offer are also wanting among large section of agricultural labour For analysis we can group these difficulties as economic, political, social and organisational and administrative.

Economic Difficulties

In the implementation of agricultural labour laws there are several difficulties which are economic in nature. First, the appalling poverty deprives labour of any reserve stock and forces him to borrow from employers and thus makes him attached which weakens bargaining capacity. Secondly, wide-spread un-employment among labourers and even among employers, poverty and starvation compel the agricultural labours to accept job at whatever wages they get. Finally, in case of casual labour consisting mainly of females and children there is no certainty and record regarding their employment, period of employment, time, place

employers etc. which makes the implementation of labour laws extremely difficult.

Political Difficulties

There are many political difficulties as well. First, the implementation of the agricultural laws runs counter to the interesr of the landlords, feudal lords and big and small agriculturists who command majority of votes and influence in the rural society. Whenever minimum wages are demanded or enfored, first, the labourers are retrenched, secondly they are deprived of their land and house-sites, thirdly other traditional benefits are snatched away, fourthly their family members are also retrenched, and finally penal cases are instituted against them and the labour is uprooted from the village. Once a labourer fights against the employer, others also do not like to employ him and he is bound to be a beggar. Obviously there are no ways and means in the hand of labour department to safeguard the agricultural workers against all these consequences. Secondly, the employers in the agricultural sector are dominating in the economic, political and social spheres of the rural society. It becomes difficult for the Government, labour officers and the labourers to cope with their resistance and displeasure, Thus there is the need for the change of heart, and mass sympathy in favour of agricultural labour to avoid class conflicts, tension and political upheavals consequent to enforcement.

Social and Organisational Difficulties

There are all the well known handicaps like ignorance, illiteracy, disintegration, casteism, groupism

economic depression, superstitions, fatalism, absence of fellow feeling, absence of trade unionism and co-operatives among the agricultural workers which stand in the way of the implementation of agricultural labour laws and effective bargaining.

Administrative Difficulties

The National Commission on Labour rightly remarked that inadequate administrative machinery is one of the important causes for the non-implementation of labour laws and recommended gearing up of the administrative machinery. There are many administrative short-comings which may be explained with special reference to Bihar. First, the machinery for implementation is the agricultural labour department which is itself feeble and the Directorate of Agricultural Labour has been bifurcated just recently.

Secondly, a band of Agricultural Labour Inspectors are particularly entrusted with the implementation of agricultural labour laws and other programmes. The Government of Bihar sanctioned nine posts of Labour Inspectors in the year 1953 for administration of minimum wages in agriculture and other non-technical labour laws in the scale of Rs. 75-140. Gradually the department has been expanded but the Inspectorate has to work under several limitations and they need improvement in status, power, emoluments, travelling allowance etc. to redress a feeling that those who are responsible for the enforcement of minimum wages themselves do not get the minimum.

Suggestion for Agricultural Labour Force in Bihar

From the above analysis, it is apparent that a

revolutionary approach to the agricultural labour problems is needed. There should be an integrated and comprehensive approach to promote the all round development of agricultural labour and to transform them into disciplined, sincere, honest and enlightened band of workers non-vulnerable to political exploitation. Failing which the millions of ill-fed, ill-sheltered, half-naked, ill-treated and illiterate poor rural labour force may fall a prey to proletarianism and reactionary forces.

The one soulution to the problems of agricultural labour is to organise them on semi-army lines. All the workers of the village should be compulsorily registered in every block at the Block-level and after being trained in agricultural and non-agricultural operations by organising temporary camps, the workers so registered should be placed in each village in the troops of 24 separately for males and females under a group leader selected out of them. The job is to be negotiated not directly by the workers but by the group leader on condition of payment of minimum wages and he will also maintain the records.

There should be Labour Sub-Inspectors in each Panchayat and at the Block level there should be Gazetted Labour Inspectors headed by Subdivisional Labour Officers and District Labour Superintendents to supervise the working of the troops and to hear cases of complaints.

When the workers are so organised as Semi-government troops they will be free from attachment and the minimum wages and other labour laws can at once be enforced which will do away with trade unionism, class-tensions and exploitation of workers by political parties. This may also facilitate the use of workers in public operations and defence preparations the organisation of housing co-operatives, co-operative farming and collective farming on surplus land and development of cottage industries, fisheries and dairy farming. In such a semi-government troops social security, welfare activities and cultural and educational activities can easily be organised and it will be easier to eradicate social evils like dowry,early marriage, bad habits and customs, social taboos, conspicuous and intoxicating consumption. Above all it will be possible to introduce health schemes and family planning for which our Prime Minister is so anxious.

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CHAPTER V

FLOOD AND DROUGHT IN NORTH BIHAR

With a population of 56.3 millions constituting 10.3 percent of the total population of the country, Bihar is the second largest State of India next to U. P. The average per capita State domestic product at all India abstract prices for 1967-70 in Bihar is Rs. 389 which is the lowest in the country except Nagaland. The per capita income in Bihar is 35 percent below the national average and 74.46 percent of the populace live below the poverty line. The people of the State are far behind the notional minimum in the provision of basic social consumption. As if this was not enough, the State has had the misfortune of being plagued by famines and floods. The twin natural calamities of heavy floods and drought have broughl havoc not only to the agricultural development of the State but to the economic progress in general.

Flood in North Bihar

Almost the whole of North Bihar is very badly affected by heavy floods and excessive rains causing almost complete loss to Bhadai and Aghani crops. A host of rivers big and small divide the alluvial North Bihar plain into belts of varying fertility,as they debouch from the mountaneous uplands in the North into the plains below and wend their way in a generally south-easterly direction corresponding to the general slope of the North Bihar plain till they meet the Ganges. These

rivers, have their origin in the Himalayan region with large catehment area, are prennial in character and are notorious for their uncertainty of courses. Slim and narrow during other times of the year, they become swollen with rain water and melted snow during the monsoon season and in the absence of well-defined beds, inundate large tracts of lands on either sides of their banks. Moreover owing to the lack of any appreciable declivity in the terrain, drainage from these rivers are delayed during the monsoon season, with the result that the rivers often change their course and seeking new channels, carry with them large quantities of gravel, sand and silt from the fast weathering rocks of the Himalayan slopes as they cut through the friable soil of the plain. With the passage of time, the old dhars and channels of these rivers get silted up resulting in the formation of large chaurs or marshy depressions.

The most important river is the Ganga. After having travelled a distance of over a thousand Kms. from its source in the high Himalayas, the Ganga enters Bihar near Chousa and then flows as a stately river for nearly 550 kms. through the most fertile tracts of this State, swollen with the waters of innumerable streams that feed it. The streams that fed the Ganga are wholly dependent upon the monsoon rains for the supply of water and consequently they are wet-weather streams, born of the mountain storms and dying in the sun-shine. They swell during the rainy season but sink in summer to mere trickles.

The main affluents which feed the Ganga from the Himalayan water-shed are proceeding from West to

East, the Gogra, the Gandak, the Burhi Gandak, the Bagmati, the Kamla, the Koshi, the Mahananda and their numerous tributaries. The river Gogra flows along with the borders of Saran and Siwan districts of Bihar and Balia district of U.P. for a length of approximately 100 Kms. till it meets the Ganga at Sinha about 20 Kms. north of Arrah. The river Gandak which trains the Himalayan ranges of Dhaulagiri on the west and Manna and Rossgarhi on the east is formed out of the mingling waters of seven streams and is known as Sapt Gandaki in Nepal and Gandak and Narayani in India. Five of its head streams rise in the glacial regions of southern Tibet at an elevation of over 7,620 metres and it has a catchment area of 37,845 sq. kms. including about 6,306 sq. kms. above the snow line. It enters the plains of Bihar through a deep and narrow gorge at Balmiki Nagar after crossing hills and thick forest of Central Nepal. Flowing in a South-Easterly direction for nearly 300 kms. along the borders of Champaran, Saran and Muzaffarpur districts, it meets the Ganga oppo ite Patna. Next to the Koshi, it is the largest feeder of the Ganga in Bihar and carries an enormous volume of water. An embankments stretching down stream from near Bagha in West Champaran to the confluence of the rivers near the Ganga, protects large tracts of land which once used to be ravaged by floods. The Burhi Gandak which springs to being in the Someshwar ranges, meanders in a south easterly direction flowing through seven districts before it meets the Ganga near Monghyr. The Bagmati which originates in the Himalayan ranges north of Kathmandu flows between the Mahabharat and Churia ranges before traversing the Nepal Terai and enters Bihar in

Sitamarhi district. Thereafter it meanders in a south-easterly direction and meets the Burhi Gandak near Rosera. This river is fed by a number of small tributaries and it swells quickly in the monsoon season flooding large tracts of land on both sides of its bank, The Bagmati, the Kamla and Bhutahi Balan are known as the Adhwara group of rivers.

Greatest of all the rivers that traverse the North Bihar plain in its journey from the Himalayas to the Ganga is the Koshi or Kaushika as it is called in the Sanskrit classics. This river which takes its birth in Tibet at a height of about 5,486 metres is the third biggest of the Himalayan rivers being next only to the Indus and Bramaputra. Its catchment area comprises the Himalayas in East Nepal and Tibet and it can be divided into two distinct parts, one lying in Tibet across Himalayas and the other to the south of it. The great snow fields that contribute to the discharge of this river in spring lie within three to five thousand metres. After passing through a steep and narrow gorge, the river debouches into the plain at Chatra in Nepal entering Bihar at Birpur bearing with it nearly 81,000 acres feet detritus every year. Thereafter it flows in a great arch through the districts of Saharsa, Madhubani, Darbhanga and then takes a sharp turn towards east through the district of Monghyr, into the bed of one of its dead tributaries the Gughari and flows practically parallel to the Ganga, before meeting it eventually at Kurshailla in Katihar district having covered a total distance of nearly 250 kms. Having no real bed of its own, the Koshi was notorious for its vagaries and the erratical and fickle nature of its course. This however, was qualified by the fact that the Koshi has been steadily

advancing west ward and in the process has been lengthening its channel. In 1736 the Koshi flowed a mile west of Purnea and joined the Ganga opposite Sahebganj. During the period 1807-39 it flowed east of Dhamdaha and joined the Ganga near Kurshailla. During the year 1873-92, it moved further west and flowed approximately along the boundaries of Saharsa and Purnea district. Since then it has moved further west ward at a rate of about 1.6 km. per year and now follows the course described above. The havoc caused by the flood of the Koshi river in the monsoon season are even now fresh in memory. The entire eastern sector of the North Bihar Plain covering approximately 33 to 36 thousand kms. constituting the Koshi belt used to be ravaged by the waters of the Koshi. No wonder it was known as the 'river of sorrow'. Since 1958, it has been trained within two embankments for a total length of 270 kms. and thus together with the giant barrage constructed at Hanumannagar has transformed Bihar's "river of sorrow" into the "river of hope".

While the North Bihar is liable to flood and change the south Gangetic Plain is stable and not subject to floods except in Diarra areas. The more prominent rivers of South Bihar are Kurshailla, the Sone, South Koel, Suvarnrekha, Sargov, Damodar, Barakar etc.

Damage due to Flood and Heavy Rains in North Bihar

Almost whole of North Bihar and the Diarra area of South Bihar is subjected to heavy flood every year. In the year 1975, and 1976 even Patna, the capital of State was drowned in flood. The loss inflicted by the frequent floods to Bhadai and Aghani crops, agricultural

property, capital, live-stock, inputs, hutments and buildings is enormous. The infrastructural facilities are shattered and the system of transport and communication entirely disrupted jeopardising the whole economic activities. The industrial sector also cannot escape the disaster. There is innumerable loss of human lives and there is intolerable sufferings to the surviving population followed with the out-break of epidemics and snake menace. The naked dance of flood turn fertile fields into arid wastes of sand, sweeping away farms and villages and changing the whole face of the country from a fruitful landscape into a wilderness of sand and swamp. The normal life of the State is completely disturbed. It is futile for Bihar to dream of economic prosperity and improvement in the standard of living of the masses unless the twin calamities of flood and drought are controlled.

The statement in table no.13 gives the number of badly affected blocks as also the extent of damage due to flood and heavy rains on the basis of 1974 figures.

Drought In Bihar

In the absence of assured irrigation, agriculture in a major portion of Bihar is heavily dependent upon rainfall. Excessive rainfall brings floods while partial or complete failure of Monsoon, its untimely advent, uneven distribution etc. causes drought. The recurrence of floods and drought have undermined the economy of the State. In normal years farmers can look forward to a reasonably good crop but such normal years alternate with droughts and floods, thereby offsetting the progress made during the good year. The net result is

TABLE 13

FLOOD AFFECTED BLOCKS IN NORTH BIHAR

Sl. No.	Name of the district	No. of Blocks with over 75 percent loss of Bhadai and Aghani crops.	No. of Blocks with 50 percent to 75 percent loss of Bhadai and Aghani crops.	No. of Blocks with 25 percent to 50 percent loss of Bhadai and Aghani craps.
1	2	3	4	5
1.	Muzaffarpur	1	2	6
2.	Vaishali	1	2	5
3.	Sitamarthi	1	2	10
4.	Darbhanga	2	6	3
5.	Samastlpur	1	3	9
6.	Madhubani	3	4	8
7.	Saran	1	9	3
8.	Siwan	2	7	3
9.	Gopalganj	1	1	5
10.	Suharsa	1	8	6
11.	Purnea	.	5	6
12.	Kalihar	.	2	2
13.	Begusarai	.	9	1
14.	East Champaran	.	8	10
15.	West Champaran	.	6	7
		14	75	84

Source : Government of Bihar, Agricultural Department.
The total number of affected blocks is 172.

that farmers in Bihar continue to lead a precarious existence depending upon the vagaries of Monsoon. Available records indicate that localised, extensive and severe droughts or floods have visited one district or another regularly in the last 150 to 200 years and while the North Bihar plains and the riverain tract of the

South Bihar plains suffer more from floods the remaining parts of the State including Chhotanagpur and Santhal Parganas districts suffer mainly from drought. In case of serious droughts however, practically the entire State is affected.

Failures of Hathia and Chitra rains have been responsible in the past for localised or widespread drought in the state. On an analysis of the week average and duration of rainfall of 336 weeks (for 21 years at the rate of 16 weeks per year from June to October) it has been found that 212 weeks registered rainfall below the respective weekly average, while 124 weeks showed surplus rainfall. The extent of deficiency can be gauged from the fact that out of 212 deficient weeks, in cases of 73 weeks the percentage of deficiency was above 50 percent. Thus out of 16 weeks, there has been an average of 10 weeks of deficient rainfall and six weeks of surplus rainfall. A study of the rainfall pattern reveals that Hathia rain have generally failed in the past, once in three years in South Bihar, once in four years in North Bihar and and once in five years in Chhotanagpnr.

The statement in Table No. 14 indicates the number of drought affected blocks (district-wise) on the basis of 1974 figures :

Thus the enormous and recurring loss caused every year by the recurrence of flood and drought is acting as a serious drag on the economic development and prosperity of the State.

TABLE 14

DROUGHT AFFECTED BLOCKS IN BIHAR

Sl. No.	Name of district	No. of Blocks with over 75 percent loss of Bhadai and Aghani crops.	No. of Blocks with 50 percent to 75 percent loss of Bhadai and Aghani crops.	No. of Blocks with 25 % to 50 % loss of Bhadai and Aghani crops.
1	2	3	4	5
1.	Hazaribagh	.	.	8
2.	Giridih	.	2	10
3.	Palamu	.	1	19
4.	Santhal Parganas	.	.	12
5.	Ranchi	.	4	22
6.	Singhbhum	.	9	13
7.	Monghyr	.	.	3
	Total	.	16	87

Source : Governmeni of Bihar, Agriculture Department.

Total Damage due to Flood

The total quantum of value of crops lost on account of flood and drought amounted to about 5.2 lakh tonnes of Bhadai crops valued at Rs. 88.7 crores and about 10 lakh tonnes of Aghani crops valued at Rs. 2,93 crores in 1974 alone. The total loss of Food-grains is therefore 15.2 lakh tonnes valued at over Rs. 380 crores, This is a very heavy loss and a grave situation is created particularly because Bihar is a deficit State. The Table No. 15 shows the district wise loss of crops due to flood aud drought during 1974.

STATEMENT SHOWING DISTRICTWISE LOSS OF CROPS DUE TO FLOOD AND DROUGHT DURING 1974 (QUANTITY AND VALUE).

TABLE 15

Sl. No.	Name of District	Bhadai crops		Aghani crops	
		Loss in lakh quintals	Loss in lakh rupees.	Loss in lakh quintals.	Loss in lakh rupees.
1	2	3	4	5	6
1.	Muzaffarpur	3.54	619.50	4.50	1350.00
2.	Vaishali	3.38	591.50	1.96	588.00
3.	Sitamarhl	0.46	80.50	5.08	1524.00
4.	Darbhanga	0.72	126.00	5.99	1794.00
5.	Samastipur	4.46	780.50	2.39	719.00
6.	Madhubani	0.11	19.25	8.64	2592.00
7.	Saran	5.38	941.50	3.04	912.00
8.	Siwan	2.86	500.50	2.61	783.00
9.	Gopalganj	2.98	521.50	1.16	348.00
10.	East Champaran	1.08	189.00	5.96	1788.00
11.	West Champaran	0.46	80.50	7.92	2376.00
12.	Saharsa	0,50	87.50	6.01	1603.00
13.	Purnea	1.16	203.00	7.02	2106.00
14.	Katihar	0.62	108.50	7.68	1104.00
15.	Begusarai	4.98	871.50	0.41	123.00
16.	Ranchi	7.78	1361.50	8.26	2478.00
17.	Palamu	3.63	635.25	2.58	774.00
18.	Dhanbad	0.39	68.25	0.81	243.00
19.	Giridih	1.53	267.75	2.98	894.00
20.	Singbhum	1.31	229.25	10.06	3018.00
21.	Hazaribagh	1.67	9828.25	1.09	327.00
22,	Dumka	2.88	504.00	5.63	1689.00
	Total :	51.88	8169.00	98.27	29331.00

Source : Government of Bihar, Agriculture Department.

Measures Taken to make up the loss in Production

The Government of Bihar adopts various measures to combat the flood damages. The State has undertaken the construction of various dams and River Valley Projects which are, however, very few. In addition, in order to make up loss in production, intermediary crops like Sweet Potatoes and Kalai and the Rabi production are encouraged by providing seeds, chemical fertilisers and credit facilities. Pest and disease control measures have also assumed great importance because of the necessity to protect the existing crops. A large scale programme of training and demonstration in the improved practices of rabi cultivation has been undertaken. The relief and rehabilitation measures are also undertaken in significant scale in the time of flood and famines, even though the overall agricultural situation is rather grim.

Suggestion

Any plan for the agricultural development and the introduction of new strategy of agricultural growth and Green Revolution has no fruitful future in Bihar unless the fluctuating fortune of agriculture is stabilised by adequate flood control measures and extension of irrigation facilities in drought affected areas. Protected from the vagaries of flood and drought, the State can really serve as the granary of India. With this aim in view we suggest certain measures.

First, a detailed programme of both medium and long term significance for permanent improvement of the areas liable to drought and flood should be drawn

up with the utmost urgency and these programmes be fully integrated with the plan. The need for the hour is a massive time bound programme of action which aims at substantially reducing, if not completely eliminating the vulnerability of the drought and of flood prone areas to these calamities. Instead of incurring large scale damage every year and spending large scale expenditure on relief etc. provision ought to be made on a much larger scale for development of drought and flood prone area in the Five Year Plans both in the State and Central Sector.

Secondly, in Bihar the total loss of crops is valued at over Rs. 380 crores in 1974. Besides there are damages to property, infrastructural facilities, lives and massive expenditure on relief and rehabilitation. In the face of such a gigantic loss every year, it is advisable that the Government of Bihar should implement a master plan for flood and drought control and for the rational utilisation of water resources in different phases. The resources for the implementation of these schemes should come from the centre in from of loans. The Government of Bihar after the completion of these projects should impose a flood and drought pervention cess in the protected areas and the Central loans should be gradurally repaid out of the amount of cess collection. The investment required for the said project will be far smaller than the huge loss suffered and will provide a permanent remedy to these twin calamities. The gains from the utilisation of water resources will be also enormous. From the schemes of flood control, we can derive the irrigation facilities to combat drought as well. It is heartening to note that the drought prone area project sanctioning Committee has approved a

five year Rs. 16 crore master plan for Bihar which is being implemented for 1974-75.

Thirdly, there should be change in the timing of cultivation. Given necessary irrigation facilities, it is possible to have paddy cultivation of "Sathi" (a paddy of 60 days) and maize in the month of March after the harvest of rabi and this crop may be reaped by the first week of July before the advent of flood and rains. The fields should be left uncultivated during July to September to avoid the damages of flood. Again by the end of September there may be cultivation of paddy and maize by providing irrigation facilities which can be harvested in December.

Besides, the National Seminar on Flood Control measures 1976 has also made certain suggestions to curb these twin calamities. The newly established National Commission on water resources should give priority to the flood control and prevention of drought in North Bihar.

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Industrial Potentialities In North Bihar

Bihar is predominantly agricultural State and North Bihar is purely agricultural. The heavy industries of Bihar are like the palm tree growing higher and higher without giving rise to adequate proliferation. The existing industrial complexes in North Bihar stands out as islands of development. North Bihar had so far a pattern of devlopment geared generally to the cottage and small scale industries. With the establishment of Thermal Power Plant and Oil Refinery in Barauni, the Rajendra Bridge of Mokamah and the extension of broad gauge line to Samastipur and Muzaffarpur, the industrial prospects of North Bihar have brightened. Barauni can burgeon into a hub of such industries as produce carbon, caustic soda, elastic and other synthetic goods and ancilliaries there of producing drums, barrels, containers, packing articles, besides general fabrication and structure workshops.

The North Bihar belt is rich in fruit crops, cash crops and good forest resources. There is scope for development of industries utilising fruit, cash crop and forest products. Manufacturing units of milk and confectionery products and centre of leather tanning and leather goods, bone mills, etc. can also be established. The best quality of cow hides and goat skins of the State is found in the region, specially in Darbhanga and Muzaffarpur districts. It is mostly exported to Bata Tannery at Mokamah and to some extent to tanneries of Bihta, Sakri and Bettiah which are under the control of Bihar State Small Industries Corporation,

The industries functioning in the region are sugar, jute and rice which could provide more production and employment if they are modernised. Besides the manufacturing of agricultural implements, such as improved plough, threshers, tillers etc. have also good scope and can be easily taken up through out the region. The existing industrial structure of North Bihar is clear from the table no.—16 showing the registered working factories and factory workers.

From the data it is clear that North Bihar has the lowest number of factory per lakh of population and the employment in factories is also the lowest. The district-wise industrial potentialities in North Bihar is as follows :

Darbhanga-Madhubani-Samastipur

The existing industrial structure of Darbhanga district is clear from the table no.—17 as in 1971.

Darbhanga District is well known for its rich traditional artisans, weavers, blacksmiths and brick-layers. Bisides there is scope for the development of fruit industry, fisheries, dairy farming, wood industry, leather industry, engineering workshops, carpentry, soap factories, paper industry, etc. New industries based on demand such as ready-made garments, liquid soap, surgical cotton, steel fabrication, surgical instruments have also good future. More recently Madhubani folk art has become increasingly popular in foreign countries.

TABLE 16.
REGISTERED WORKING FACTORIES AND FACTORY WORKERS IN NORTH BIHAR BY DISTRICT, 1970.

District	Working Factories.	Average daily no. of workers employed in factories.	% of workers employed in factories to total workers in the district.	Factory per lakh of population.
1	2	3	4	5
1. Saran	666	7617	0.7	178
2. Champaran	1200	10052	0.8	284
3. Muzaffarpur	904	7494	0.5	155
4. Darbhanga	1051	9419	0.9	180
5. Saharsa	502	2837	0.4	121
6. Purnea	972	8384	0.6	213
A. North Bihar	5295	45803	0.6	189
B. South Bihar	6126	67141	1.2	374
C. Chhotanagpur	5082	162075	3.6	1139
D. Bihar	16503	275019	1.6	480

Source : Chief Inspector of Factories, Bihar 1970.

TABLE 17

INDUSTRIES IN DARBHANGA DISTRICT 1971.

FOOD PROCESSING INDUSTRIES :

District--Darbhanga (a)	Rice and Dal. Mills :		Oil Mills.		Sugar Factory		Dairy Industry		Flour Mill	
	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.
	35	776	14	188	5	3264	1	50	103	237

	Textile Industries					
	Cotton.		Jute.		Total	
	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories	Employ-ment.
	1	242	1	2796	2	3038

Source : Census Atlas of Bihar 1961.

	Transport Equipment Industries.							
	Manufacture of Rail equipments		Manufacture of Motor Vehicles.		Bicycle manufaturing.		Total	
	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.
	7	700	2	20	1	3	4	723

Source : Census Atlas of Bihar 1961.

Saharsa

The exi ting industrial structure of Saharsa district is clear from the table no.—18

The economy of Saharsa district is industrially quite under-developed and needs few large scale industries based on live-stock, jute, sugar-cane, cotton, bamboo, Besides there is scope for the development of industries for agricultural implements, sheet metal articles, utensils, khandasari, sugar, carpentry, wood products, hardware,tiles, bakery, paper etc.

Purnea-Katihar

The existing industrial structure of Purnea district is illustrated in the following table no.—19

In Purnea district besides jute, cotton and sugar industry, there is scope for carpentry, manufaeture of leather, plastic goods and buckets, mat making, weaving, tailoring, blacksmithy, tanning etc. Fisheries can be developed in Dhamdaha, Korha, Forbesganj, Raniganj and Kishanganj etc.

Muzaffarpur-Sitamarhi-Vaishali

Muzaffarpur, perhaps, may be considered the most industrialised district of North Bihar. The existing industrial structure is given in the following table no.—20

In Muzaffarpur district there is considerable scope for leather industry, bone industry, paints and varnishes, hardwares, alumunium and enamel utensils, rolling mill and hospital appliances. There is also possibility of producing poultry and cattle feeds and the basic raw materials for them would be molasses, maize, rice, brans etc. which are available in this district.

TABLE 18

INDUSTRIES NI SAHARASA DISTRICT 1961.

PROCESSING INDUSTRIES							
Rice and Dal Mills		Oil Mills		Sugar Factory		Flour Mills.	Total
No. of factories.	Employ-ment	No. of Employ-factories. ment		No. of Employ-factories. ment		No. of Employ-factories ment	No. of Employ-factories. ment.
20	434	3	28	2	97	40 172	65 731

Source : Census Atlas of Bihar 1961.

TABLE 19

INDUSTRIES IN PURNEA DISTRICT 1961

FOOD PROCESSING INDUSTRIES.

Rice and Dal Mills.		Oil Mills		Sugar Fatory		Bakery factory		Flour Mills		Total	
No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Epmloy-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.
67	2016	24	111	4	71	1	20	40	314	136	2602

Textile Industries.

Jute		Other (Hosiery Products Wearing apparel ect.)		Total	
No of factories.	Employment	No. of factories.	Employment	No. of factories.	Employment.
2	4608	1	9	3	4617

Source : Census Atlas of Bihar 1961.

Metal Based Industries.

Manufacture of Iron and Steel.		Manufacuture of Structural Steel Product.		Total	
No. of factories.	Employment.	No. of factories.	Employment.	No. of factories.	Employment
1	2	2	23	3	25

Transport Equipment Industries.

Manufacture of Motor Vehicles.		Bicycle Manufacturing		Total	
No. of factories.	Employment.	No. of factories.	Employment.	No. of factories.	Employment.
3	52	1	12	4	64

Chemical soape etc.

No. of factories.	Employment.
1	6

Source : Census Atlas of Bihar 1961.

TABLE 20

INDUSTRIES IN MUZAFFARPUR DISTRICT

FOOD PROCESSING INDUSTRIES :

Rice and Dal Mills.		Oil Mills		Sugar Factory		Bakery Factory		Flour Mills.		Total	
No. of factories.	Employ-ment.	No of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.
55	829	8	97	5	2164	1	2	112	210	180	3302

TEXTILES INDUSTRIES.

Others (Hosiery) etc.

No. of factories.	Employment.
1	9

Source : Census Atlas of Bihar 1061.

METAL BASED INDUSTRIES

Manufacture of Structural Steel Products.

No. of factories.	Employment.
3	73

TRANSPORT EQUIPMENT INDUSTRIES.

Manufacturing of Motor Vehicles.

No. of factories.	Employment.
8	41

Source : Census Atlas of Bihar 1961.

Saran-Siwan-Gopalganj

In Saran district besides sugar and milk industry there is scope for the development of a number of Small Scale Industries producing utensils, agricultural implements, bicycle parts, trunks, automobile, batteries, salt petre, soap, leather, furniture, rickshaw parts, fruit products, wood, bamboo products, leather goods, engineering, products, plastic goods, toys, ready-made garments etc. Gopalganja has great potentiality to become an agro-industrial district. Flour and Oil Mills, Match Factory, Small Iron Industries, and Cigarette Factory, Alcohal and confectinery industries have good prospect in Saran district. The existing industiial structure of Saran district is presented in table no.—21

Champaran East and West

In Champaran district there is good scope for development of drug industries because of the availability of all kinds of herbs and chemicals. The district has the prospect for developing resource based industries producing Katha, bone, fertiliser, matches hand-made paper, gun, rice, oil and the like. There is also scope for developing demand based industries, manufacturing utensils, plastic articles, paints and varnishes, agricultural implements, biscuits and so on. Motihari, Narkatiaganj, Bettiah, Raxaul and Ramgarh have developed as important trading and industrial centre. The existing industrial structure of the district is as shown in table no.—22

Thus on the whole North Bihar has industrial

TABLE 21

INDUSTRIES IN SARAN DISTRICT 1961.

FOOD PROCESSING INDUSTRIES 1961

Rice and Dal Mills.		Oil Mills.		Sugar Factory		Bakery Factory		Fruit Factory		Flour Mills.	
No. of Employ-factories. ment.		No. of Employ-factories. ment.		No. of Employ-factories. ment.		No. of Employ-factories. ment.		No. of Employ-factories. ment.		No. of Employ-factories. ment.	
4	11	6	27	7	4985	1	125	1	20	59	134

Total	
No. of factories.	Employment.
78	5302

Source : Census Atlas of Bihar 1961.

CHEMICAL INDUSTRIES					
Modicine and Pharmaceutical Products.		Petrol Chemical Industries		Total	
No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.
2	104	1	129	3	233

Source : Census Atlas of Bihar 1961.

TABLE 22

INDUSTRIES OF CHAMPARAN DISTRICT

FOOD PROCESSING INDUSTRIES.

Rice and Dal Mills.		Oil Mills.		Sugar Factory.		Flour Mills.		Total	
No. of factories.	Employ-ment.	No. of factories.	Employ-ment.	No of factories.	Employ-ment.	No. of factories.	Employ-ment.	No. of factories.	Employ-ment.
106	1213	9	43	9	4760	35	159	159	6175

TEXTILE INDUSTRIES	
Cotton	
No. of factories	Employment.
1	32

Source : Census Atlas of Bihar 1961.

METAL BASED INDUSTRIES.	
Manufacture of Structural Steel.	
No. of factories.	Employment.
2	50
TRANSPORT INDUSTRIES	
Manufacture of Motor Vehicles	
No. of factories.	Employment.
1	5
CHEMICAL INDUSTRIES.	
Industrial Chemicals.	
No. of factories.	Employment.
1	6
Plastic Products etc.	
No. of factories.	Employment.
7	214

Source : Census Atlas of Bihar 1961

potentialities based on local raw materials and local demand which if properly harnessed can supplement the agricultural sector, may boost up the income of the area and can provide employment to the poor farmers and rural workers. This will relieve excessive pressure from agriculture. In the Techo-Economic Survey of Bihar in its "industrial profiles" the NCAER has felt that Bihar and particularly North Bihar has the distinct advantage for developing industries based on agricultural raw materials, industries based on extractive raw materials, industries based on metallic minerals and products and chemical industries.

Trade Markets In North Bihar

In North Bihar there are several important trade markets headed by a very big business centre of Muzaffarpur, The main markets of the region are Begusarai, Tehgra, Darbhanga, Adapur, Chakia, Motihari, Bagha. Bettiah, Champatia, Narkatiaganj, Gopalganj, Karhagola, Katihar, Madhubani, Jainagar, Jhanjharpur, Madhepur, Nirmali, Araria, Banmankhi, Forbesganj, Galgalia, Gulabhagh, Jalalgarh, Jogbani, Kasba, Kishanganja, Bihari Ganja, Murliganja, Singheshwarasthan, Supaul, Dalsingsarai, Rossera, Samastipur, Chapra, Dighwara, Pupri, Sitamarhi, Maharajganj, Siwan, Vaishali, Hajipur, Lalganja, Barauni etc. which if modernised and properly facilitated can serve as good centre of Trade and Commerce providing immense opportunities for employment and income. The main items of imports in these markets are industrial products and exports are agricultural products and the products of cottage industries.

Dolls of Muzaffiarpur are exported to France, West

Germany, Canada, Scandenavia etc. The aplique work products of folk style of Saran and Siwan districts are exported to France and Scandenavian countries. The Sikki articles of Darbhanga, Madhubani, Samastipur and Siwan districts are exported to U.S.A., Canada, Sweden and Japan. The Munj articles of west Champaran are exported to U.S.A., Japan etc. The Madhubani folk paintings have become very popurar in U.S.A., Spain, France, West Germany and Scandenavian countries and have become an excellent source of foreign exchange. These Industries if properly organised may supply many popular items of export and prove to be a potential source of foreign exchange.

●●●

CHAPTER VII

INFRASTRUCTURAL FACILITIES IN NORTH BIHAR.

One basic weakness which hits the eye in North Bihar is the inadequacy of the investment in the socio-economic overheads which form the infrastructure of a dynamic growth-process. In the provision of road facilities, motor vehicles, railways, post-offices, educational institutions, health facilities, etc. Bihar is lagging behind the national average and the position of North Bihar is more deplorable.

Transport and Communication

North Bihar is one of the poorest part of the country in the matter of transport facilities which seriously handicap the economic development of the region. Our transport facilities are short of the growing requirements of our economy. The table no. 23 reveals the rail and road length of the different districts of North Bihar.

From the table it is clear that out of 16,418.4 Km. of surfaced road in Bihar, North Bihar has only 5,821.7 Km. of surfaced roads that is only one third of the total. The rail length in North Bihar is only 1701 Km. as against 5048 Km. in Bihar, i. e. again one third. The regionl distribution of surfaced roads is 5821.7 Km. in North Bihar, 4990.6 Km. in South Bihar and 5606.1 Km. in Chhotanagpur. The rail length is 1701 Km. in North Bihar, 1359 Km. in South Bihar and 1968 Km. in Chhotanagpur. North Bihar with a larger population

TABLE 23

RAIL AND ROAD LENGTH IN DIFFERENT DISTRICTS OF NORTH BIHAR.
As on 33st March, 1968.

District.	Surfaced road (Km.)	Surfaced roads per thousand sq. km.	Surfaced roads per lakh population	Rail length Km.	Rail length per thousand sq. Km.	Rail length per lakh of population
1	2	3	4	5	6	7
1. Saran	907.2	129.5	21.2	255	36.4	6.0
2. Champaran	934.8	101.6	26.4	317	34.5	9.0
3. Muzaffarpur	980.1	125.6	20.2	219	28.1	4.4
4. Darbhanga	1242.9	142.8	23.7	323	37.1	6.2
5. Saharsa	502.4	85.1	21.4	168	28.2	7.1
6. Purnea	1254.3	114.0	31.8	419	38.1	10.6
7. Bihar	16418.4	94.5	29.9	5048	29.0	9.0

Source : State Works Departmeni.

and area is lagging behind in rail-road facilities in per-capita terms.

The shortage in transport in North Bihar is further explained by the number of motor vehicles as given in the table no. 24.

From the table it is evident that the number of vehicles in North Bihar is quite insufficient and few in comparison to Chhotanagpur. It is needless to emphasise that North Bihar needs rapid extension of rail-road and transport facilities to gear up its economic development.

Power

Striking inadequacy and regional imbalance prevails in power development in Bihar. Areas, where facilities for electricity supply are either inadequate or non-existent are far too many. In 1951, Chhotanagpur with about one fifth of the Bihar's total population was responsible for almost three fourths of the total generation of electricity whereas North Bihar, where about one third of Bihar's population lived, consumed less than one percent of the total energy. The district of Dhanbad which accounted for two percent of the State population was resposible for about 65 percent of the total consumption of electric power. Though there has been some improvement in the situation after 1951, yet the above pattern remains fundamentally as uneven and inadequate as before.

During 1971-72, the percapita consumption of power in Bihar was only 67 Kwh. as against an all India average of 94 Kwh. The percapita consumption of elec-

TABLE 24

NO. OF MOTOR VEHICLES IN BIHAR 1972-73.

District.	Motorcycles Scooters and Auto-rickshaws	Passenger cars and Taxies.	Taxis	Buses	Trucks	Others	Total
1	2	3	4	5	6	7	8
1. Saran	550 (1.9)	833 (3.3)	132 (3.3)	389 (7.5)	326 (1:5)	109 (4.7)	2429 (2.7)
2. Champaran	662 (2.3)	457 (1.7)	12 (0.3)	194 (3.7)	243 (1.1)	1571 (37.4)	3139 (3.5)
3. Muzaffarpur	2131 (7.5)	2171 (8.6)	278 (7.0)	1012 (19.4)	1315 (6.2)	804 (19.0)	7711 (8.7)
4. Darbhanga	540 (1.9)	1245 (4.9)	133 (3.3)	78 (1.5)	225 (1.1)	18 (0.4)	2239 (2.5)
5. Saharsa	170 (0.6)	301 (1.2)	9 (0.2)	174 (3.4)	106 (0.4)	81 (1.9)	841 (1.0)
6. Purnea	270 (0.9)	548 (2.1)	77 (1.9)	177 (3.4)	262 (1.2)	47 (1.2)	1381 (1.6)
7. North Bihar	4323 (15.1)	5555 (21.8)	641 (16.0)	2014 (38.9)	2477 (15.5)	2720 (65.6)	17740 (20.0)

Figures within the brackets indicate percentages to the total of the column.

Source : Department of Transport : Government of Bihar.

TABLE CONTINUED.

1	2	3	4	5	6	7	8
8. South Bihar Plains.	5133 (15.1)	5132 (20.0)	484 (17.2)	1196 (17.2)	4553 (21.3)	694 (16.7)	17402 (19.5)
9. Chhotanagpur Plateau.	19128 (72.8)	14721 (58.0)	3051 (66.8)	1997 (48.2)	14451 (67.2)	791 (21.0)	51734 (60.5)
10. Bihar	28604	25408	3976	5217	21481	4210	88876

Figures within the brackets indicate percentages to the total of the column.

Source : Department of Transport : Government of Bihar.

tricity for North Bihar was as low as 10.01 Kwh. while for South Bihar it was 41.55 Kwh. as for the Chhotanagpur region it was 201.90 Kwh. The percapita consumption of electricity in Chhotanagpur is high because of the existence of various industrial complexes. The large variation in percapita consumption of NorthBihar, South Bihar and Chhonanagpur regions is because of the difference among them in the level and pattern of industrial development and due to the uneven investment in the power sector in the different regions.

In the matter of rural electrification, Bihar and particularly North Bihar is still very backward. The table no. 25 reveals the extent of rural electrification in Bihar by regions.

It is paradoxical that North Bihar with a host of rivers and fabulous water resources should suffer from the shortage of electricity. There is immense scope for the generation of hydro-electricity in North Bihar which properly harnessed can supply to the whole nation electricity at a much cheaper rate. An integrated Policy for flood control, irrigation and hydro-electricity is needed in North Bihar.

Education

In the field of educational institutions North Bihar is again lagging behind. The regional variation is indicated by the fact that the percentage of literates in South Bihar is 24.3 percent, in Chhotanagpur 20.4 percent and in North Bihar it is 17.1 percent. The table no. 26 reveals the rate of literacy in different regions.

The percentage of literacy, it is clear, is lowest in North Bihar and even below the state average. A

TABLE 25

RURAL ELECTRIFICATION BIHAR BY DISTRICT
As on 31st March, 1973.

District	No. Villages.	No. of Villages electrified.	% of electrified villages to total villages in the district.	No. of Pumps energized.	% of pumps energized to total enrgized in the State.
1	2	3	4	5	6
1. Saran	4,425	532	12.0	2,173	2.5
2. Champaran	2,642	397	15.0	939	1.1
3. Muzaffarpur	4,147	517	12.5	4,075	4.6
4. Darbnanga	3,143	533	16.9	2,329	2.7
5. Saharsa	1,195	74	6.2	248	0.3
6. Purnea	3,657	80	2.2	484	0.5
7. North Bihar Plains	19,239	2133	11.1	10,248	11.7
8. South Bihar Plains	19,281	5600	29.0	72,523	82.8
9. Chhotanagpur Plateau	29,145	1469	5.0	4,744	5.5
10. Bihar	67,665	9202	13.6	87,515	100.0

Source : Bihar State Electricity Board and Report of the Plan Projects Committee on P. E. S., 1974

LITERACY TABLE 26

Natural Division	Literates and Educated (000)	% of literates to total population.	% distribution of literacy.	% of male literates to total	% of female literates to total
1	2	3	4	5	6
1. North Bihar Plains.	4486.5	17.1	39.9	80.4	19.6
2. South Bihar Plains.	3849.7	24.3	34.3	78.0	22.0
3. Chhotanagpur Plateau	2901.4	20.4	25.8	77.0	23·0
4. All Bihar	11237.6	19.9	100.0	78.7	21.3

Source : Census of India, 1971

quantitative and qualitative growth of education is necessary for human capital formation which is so essential for economic growth.

Health

The overcrowded region of North Bihar requires a higher provision for health facilities. The existing health facilitiee are very inadequate and even below the state average. The table no. 27 reveals the provision of health facilities in North Bihar.

Co-operation

The first Co-operative Society in Bihar was organized by Mr. Lyon in Purnea in 1902, i. e. in North Bihar. The Maharajas of Darbhanga and Hathwa supported the movement and encouraged it in their estates. But the progress of Co-operative Movements has been very slow in North Bihar. Most of the organized co-operative societies fell a prey to non-coperation dishonesty, mal-practices and inefficiency and failed to provide the institutional frame work necessary for rapid economic development of North Bihar. The present policy of the Government of Bihar to re-organize the co-operative societies has kindled a new light of hope. Even in the structure of co-operative societies we find uneven distribution and regional variation. The table no. 28 highlights the co-operative structure in North Bihar districts.

Banking Facilities

Rapid extension of Banking facilities is essential for the provision of necessary wherewithal for agricultural and industrial development of North Bihar. But

TABLE 27

NUMBER OF HOSPITALS, DISPENSARIES, BEDSS, PATIENTS TREATED AND MEDICAL PRACTITIONERS IN NORTH BIHAR
(OLD DISTRICTS)

1973

Name of District	Hospitals and Dispensaries	Beds	Medical Practitioners	Patients treated. Indoor	Outdoor	Total
1	2	3	4	5	6	7
1. Saran	50	319	49	23	14659	14682
2. Champaran	46	223	...	6700	90675	97375
3. Muzaffarpur	65	668	128	16962	334174	351136
4. Darbhanga	93	48		715	135967	136682
5. Saharsa	57		78	6735	318182	324917
6 Purnea	62	492	77	7586	49282	56868
7. North Bihar	373	1750	332	38721	992939	1881660
8. Bihar.	1071	7175	597	275523	4394151	4669674

(Provisional)

Source : Directorate of Statistics and Evaluation, Bihar.

TABLE 28

DISTRICTWISE CO-OPERATIVE SOCIETIES (ALL TYPES)
As on 30-6-1968.

Rs. in lakha.

Sl. No.	District.	Number of societies	Number of Member (in lakhs)	Paid-up share capital.	Working capital.
1	2	3	4	5	6
1.	Saran	2,982	2.97	86.07	681.90
2.	Champaran	3,352	1.88	87.99	744.80
3.	Muzaffarpur	3,252	3.05	84.75	727.04
4.	Darbhanga	2,760	2.72	68.57	644.83
5.	Purnea	2,052	1.60	50.92	525.03
6.	Saharsa	1,217	1.15	44.40	381.89
7.	North Bihar	15,615	13.37	422.70	3705.49
8.	Bihar	35,351	31.24	1240.99	9213.42

Source :-Hand-Book of Co-operative Statistics, Bihar--1968.

the branches of commercial banks are very few in number in North Bihar and the banking institutions have failed to penetrate in the rural areas. The following table no. 29 explains the distribution of branch offices:—

TABEE 29

DISTRICTWISE DISTRIBUTION OF BRANCH OFFICE OF COMMERCIAL BANKS IN BIHAR.

District	No. of branch office. March 1975.	Average population per branch office March 1975. (000)
1. Begusarai	18	64
2. East Ghamparan	27	72
3. West Champaran	18	88
4. Darbhanga	18	84
5. Gopalganj	5	221
6. Katihar	7	162
7. Madhubani	11	172
8. Muzaffarpur	28	71
9. Purnea	36	78
10. Saharsa	19	124
11. Samastipur	12	152
12. Saran	21	81
13. Sitamarhi	12	132
14. Siwan	9	286
15. Vaishali	12	112
16. North Bihar	253	—
17. South Bihar	259	...
18. Chhotanagpur	265	—
Bihar	272	73

Source : Development of Banking-Ministry of Finance.

Thus the average population per branch office is 73,000 in Bihar whereas in Siwan District 2,86,000 population has one branch and except Begusarai, East Champaran and Muzaflarpur in all the districts of North Bihar the pressure of population is higher than that of per branch in Bihar.

Cinema Houses

The infrastructural facilities for entertainment of North Bihar is again inadequate. The number of towns in this State is 202 but only 54 are located in North Bihar. The table no. 30 reveals the number of Cinema Houses in North Bihar.

TABLE 30

NUMBER OF CINEMA HOUSES IN NORTH BIHAR.

Districts	Number of Cinema Houses in 1973.
Saran	12
Champaran	15
Muzaffarpur	15
Darbhanga	13
Saharsa	7
Purnea	7
North Bihar	69
Bihar	194

Soure : Bihar through Figures, 1975.

The foregoing analysis of the poor infrastructural facilities suggests the need for more transport and communication, more rural and urban electrification, more educational and health facilities, more economic institutions like co-operatives and bankings and more housing facilities to accelerate the tempo of economic development in North Bihar.

CHAPTER VIII

INCOME AND EPLOYMENT IN NORTH BIHAR

North Bihar is poor because it is poor. According to the estimate of the Central Statistical Organization, the percapita state domestic product in Bihar was Rs. 389 in 1970 which was lowest in the country except Nagaland having percapita state domestic product only Rs. 371. The percapita income in North Bihar is still lower. The backward State of agriculture and industries, poor infrastructural facilities, adverse demographic conditions, lack of purchasing power and subsequent inadequacy of effective demand, lack of capital, skill, technology and entrepreneurship, low rate of savings, investment and capital formation and a backward and fatalist human population combined with the vagaries of nature account for low income and high-unemployment in North Bihar.

Income and its Distribution in North Bihar

The estimates of district percapita income for 1960-61 show that against a state percapita income of Rs. 217 the district percapita income varies from Rs. 517 for Dhanbad to Rs, 142 for Muzaffarpur district. The 3 poorest districts in the State are the most densely populated districts of Muzaffarpur, Darbhanga and Saran all in North Bihar. These 3 districts with 26.1 percent state population claimed 17.9 percent of the State income. On the other hand, the two richest districts in the State viz. Dhanbad and Singhbum with only 6.9 percent of the state population claimed 13.7 percent of the state's income. In between lie the six districts of

Sahabad, Patna, Hazaribagh, Purnea, Santhal Parganas and Ranchi, with percapita income exceeding the state's average. The remaining districts viz. Bhagalpur, Monghyr, Champaran, Palamau, Gaya and Saharsa show percapita income less than the State's average.

The NCAER has done some work even in the field of regional distribution of income and has worked out estimates of district income for the year 1955-56 of 289 districts in 14 States of India. It is worth noting that among the bottom 10 percent of the districts which had the lowest percapita income, U. P. districts figure 11 times, Bihar districts 10 times and Orissa districts four times. Thus among the 29 districts with the lowest percapita income U. P., Bihar and Orissa monopolised 25 places out of 29. It was also found that there was only one district Tehri Garhwal in U. P. in the whole of India which was at par with Bihar's. Darbhanga and Saran districts in the poverty of percapita income.

The income of Bihar is 35 percent below the national average and the proportion of those below the poverty line in the State is estimated at 74.46 percent of the total population. The proportion of those below the poverty line in the North Bihar and Chhotanagpur works out to 77.01 percent and 78.36 percent respectively, the figure for South Bihar being 66.69 percent. The table no. 31 reveals the percapita income of different districts :

From the table it is clear that four districts out of six in North Bihar were lagging in percapita income behind the State average in 1955-56 and the number of such districts increased to five in 1961-62.

TABLE 31

DISTRICT INCOME IN BIHAR, 1955-56

District	Percapita income (Rupees) 1955-56	1961-62.
1	2	3
Champaran	133	201
Darbhanga	96	152
Muzaffarpur	202	142
Purnea	192	229
Saharsa	178	161
Saran	96	153
North Bihar Plains		
Bhagalpur	145	215
Gaya	140	194
Monghyr	113	214
Patna	168	251
Santhal Parganas	161	220
Shahabad	177	270
South Bihar Plains		
Dhanbad	391	517
Hazaribagh	140	250
Palamau	125	200
Ranchi	143	217
Singhbhumi	277	379
Chhotanagpur Plateau		
Bihar	149	217

Source: Income and its Distribution in Bihar (S. R. Bose, Page-50)

TABLE 32

AN ESTIMATE OF REDUNDANT FARM POPULATION IN BIHAR IN 1951

District	Redundant Adult population on land (in thousand).
Champaran	270.0
Darbnanga	471.1
Muzaffarpur	512.1
Purnea	223.0
Saharsa	147.4
Saran	421.3
North Bihar	2044.9
Bhagalpur	86,0
Gaya	353.4
Monghyr	339.5
Patna	232.4
Santhal Perganas	371.7
Shahabad	333.0
South Bihar	1696.0
Dhanbad	206.2
Hazaribagh	209.8
Palamau	45.9
Ranchi	1.6
Singhbhumi	154.0
Chhotanagpur	617.5
Bihar	4378.4

Source : Economics of Backward Region in a Backward Economy- Kedarnath Prasad, Vol. II, Page-330

Unemployment in North Bihar

In North Bihar there is the colossal problem of unemployment. In this region we find all the types of unemployment viz. chronic, frictional, disguised, educated unemployment and also under-employment in a massive scale. In the absence of industries, trade and commerce to the desired extent, 95 percent of the population is dependent on agriculture and the magnitude of redundant labour force is substantial. This army of unemployed is a potential threat to the Socio-economic and political order of North Bihar. Besides the economic causes, home sickness, immobility, illiteracy, fatalism, lack of training, enthusiasm and entrepreneurship among the Labour force are also major causes of unemployment. The table no. 32 indicates the redundant farm population in Bihar.

It is clear that there is a serious and striking imbalance between the supply of man-power and the opportunities of gainful employment in North Bihar. This has resulted in wide spread unemployment. There is urgent necessity as well as considerable scope for substantially improving the productivity per engaged person in all important sectors to achieve and maintain a rising trend in the percapita income. Proper man-power planning and employment policy is needed to ameliorate the lot of ill fed, ill sheltered and half-naked millions of North Bihar.

Perspective Planning for the Economic Development of North Bihar

When the First Five Year Plan was adumbrated in 1951-52, high hopes were raised and it was expected that the people of North Bihar will enjoy a high standard of life. But the foregoing analysis reveals that even after 25 years of Planning, North Bihar is far below the national minimum in all respects. This has necessitated a perspective plan for North Bihar in future for the maximum utilisation of man-power and resources to promote maximum happiness of the maximum number. A perspective plan portrays the direction in which the economy intends to move in the future. We suggest a perspective plan for North Bihar.

Plan for Agricultural Development

The major thrust of develoment of North Bihar has to be modernisation of agriculture. The economic prosperity of North Bihar depends upon agriculture. The nature of agriculture will have to be changed from subsistence to commercial consideration. A plan for the agricultural development of North Bihar must aim at the rapid implementation of land ceiling laws accompanied with consolidation of holdings, land reclamation and land development and introduction of co-operative farming on surplus lands. The methods and primitive tools of the agriculture should be modernised followed with the use of improved seeds, pesticides and fertilisers to boost-up agricultural production. Steps should be taken for qualitative improvements in live-stock and

aforestation, There should be shift in cultivation from food crops to commercial crops and new crops like soya-bean, sun-flower and ground-nut be introduced.

Flood Control and Irrigation

Economic development of North Bihar cannot be imagined unless there is flood control and irrigation to ensure controlled water supply for agriculture and to protect the economy from the vagaries of Nature. In order to stabilise the fortune of agriculture, control of flood and drought should be given the first priority in any Plan for the economic development of North Bihar and there should be implementation of an integrated scheme of flood control, irrigation and rural electrification by harnessing the abundant water resources of North Bihar.

Institutional Re-organization

One of the very important measures for economic development is creation of appropriate type of institutions. In order to supply necessary wherewithal to the agricultural and industrial sector, co-operative and banking institutions must be reshaped and developed with extensive branch facilities. The Block Development Programmes and the Small Farmers' Development Agencies must be made more effective. These institutions should be geared up to provide credit facilities, agricultural inputs and implements, marketing facilities etc. to the farmers.

Industrialisation

Whereas in U. K. 5% and in U. S. A., 10% population are engaged in agriculture, in North Bihar about

88 percent of the population are engaged in agriculture which is the main cause of poverty, low income and low standard of living of the region. There is urgency to transfer the pressure from agriculture to industrial sector to be organized on the basis of local industrial potentialities as indicated earlier mainly on the lines of small scale and cottage industries. Once agriculture is developed there will be need for large scale processing industries such as rice mills, dal mills, vegatable and fruit canning, cold storage, sugar mills, textile industries, flour mills, oil mills, paper mills, farm implements, timber work-shops etc. The agriculturists in North Bihar may also boost-up their income by organising dairies, poultry, piggery, goat raising, sheep rearing etc. North Bihar has big potential for the development of pisciculture in its numerous ponds, rivers, chaurs, channels etc. North Bihar can considerably enhance its income by organising cultivation of mango, lichi, Banana, Guava flowers, nursery etc. This region is uniquely suited for cultivation of "Makhana".

Development of Infrastructure

Development of infrastructure like transport and communication, power, health and educational facilities, housing etc. is of primary importance for the economic development of North Bihar. Priority should be given to rail-road facilities, power and irrigation facitities which alone can transform the destiny of North Bihar.

Rural Employment

With the implementation of the above schemes of agricultural, industrial, organizational and infrastruc-

tural facilities, avenues should be created for rural employment for the redundant labour force and the excessive burden of population on land should be transferred from agricultural to non-agricultural sector. For this there should also be the provision of training facilities and an enterprising out-look should also be developed.

Agricultural Labour Force

For the best utilisation of agricultural labour force all the agricultural labours should be suitably organized and trained in agricultural and non-agricultural operations under the supervision of the government officers as sugge ted in the previous pages. The surplus land distributed to them be brought under co-operative farming and small scale and cottage industries be developed among them on co-operative lines. Welfare activities educational and cultural activities and family planning should be introduced among them.

Population Control

In this most populous region of North Bihar special emphasis should be placed on family planning by opening health-cum family planning centres at Panchayat level.

Social Change

Change in social outlook, habits, customs, and tradition is also necessary for the economic development of North Bihar. The fatalism of the past should be replaced by diligence and enterprise. Superstitions and social taboos should give way to scientific advance-

ment. The heavy expenditure on marriage, Shradh, Yangyopavit, festivals and feasts inhibiting capital formation and leading to huge unproductive debts must be minimised. In fact social factors are among the most retarding obstacles to the economic development of North Bihar.

In the ultimate analysis, it is man who brings about development and I believe if the people of this region become committed for development, North Bihar can distinguish itself as one of most affluent regions in the country.

●●

APPENDIX

IDENTIFICATION OF WEAKER DISTRICTS

In a study called "Identification of Weaker Districts in Bihar", undertaken by the Diretorate of Statistics and Evaluation Department of the Government of Bihar in 1964-65, districts with percentages higher than the State average in the following respects have been considered to be relatively backward :

A (1) Density of population per sq. mile.

A (2) Percentage of total workers engaged in agriculture.

On the other hand, districts with percentages lower than the State average in the following respect have been considered to be relatively backward :

B (1) Cultivable area per agricultural worker.

B (2) Net area sown per agricultural worker.

The following statement gives the total number of respects in which the different districts were found to be weak :

District	Total nnmber of Respects
1. Muzaffarpur	23
2. Darbhanga	21
3. Saran	19
4. Saharsa	19
5. Champaran	17
6. Purnea	17
7. Santhal Parganas	16
8. Palamau	19
9. Monghyr	15
10. Gaya	15

11. Hazaribagh	14
12. Singhbhum	11
13. Dhanbad	10
14. Bhagalpur	9
15. Ranchi	8
16. Shahabad	6
17. Patna	4

When we compare the results of the 1965 study with those of the 1956 study attempted by Professor Bose, we find that Darbhanga, Saran, Saharsa and Champaran continue to remain among the most depressed areas of Bihar whereas Palamau has definitely gone up the ladder. Muzaffarpur and Purnea which had fared better in 1956 seem to have gone down in the last respects :

Serial number of Respects (as indicated above)		Number of districts.
B.	(21)	14
B	(4)	
B.	(22)	13
A	(1)	
B	(7)	
B	(8)	12
B	(18)	
B	(5)	
B	(12)	11
B	(20)	
B	(1)	
B	(9)	10
B	(19)	
A	(2)	
B	(11)	
B	(13)	9
B	(14)	
B	(15)	
B	(6)	7
B	(10)	
B	(16)	6

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CORRIGENDUM

Page- 5-line 14 read	*Backward* for *backward.*
Page- 7-line 16 read	*Jurisdiction* for *juris diction.*
Page-12-line 28 read	*on* for *in*
Page-17-line 11 read	*Trinidad* for *Trinad.*
Page-17-line 14 read	*Costarica* for *Cossarica.*
Page-18-line 9 read	*Programme* for *Programe.*
Page-18-line 15 read	*workers* for *workrs.*
Page-20-line 5 sectional heading read	*Rainfall* for *Rainfaill.*
Page-48-line 10 read	*national* for *notional.*
Page-49-line 2 read	*Perennial* for *Prennial.*
Page-50-line 23 read	*embankment* for *embankments.*
Page-53-line 25 read	*cause* for *causes.*
Page-54-Table read	*Katihar* for *Kalihar.*
Page-54-Last line read	*riverine* for *reverain*
Page-55-line 18 read	*deficient* for *deflcient.*
Page-61-line 28 read	*which* for *whieh*
Page-66-line 1 read	*existing* for *exiting.*
Page-66-line 13 read	*manufacture* for *manufaeture.*
Page-72-line 11 read	*Alcohol* for *Alcohal*
Page-87-line 15 read	*non-co-operation* for *non-coperation.*
Page-92 heading read	*Employment* for *Eployment.*

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